



**FINAL
PCB-IMPACTED SOIL EXCAVATION IN THE WETLAND AREA
CONSTRUCTION COMPLETION REPORT**

**AMERICAN CHEMICAL SERVICE, INC.
NPL SITE
GRIFFITH, INDIANA**

MWH File No. 2090601

Prepared For:

American Chemical Service NPL Site RD/RA Executive Committee

Prepared By:

**MWH
27755 Diehl Road, Suite 300
Warrenville, Illinois 60555**

November 2002



MWH

MONTGOMERY WATSON HARZA



MWH

MONTGOMERY WATSON HARZA

November 14, 2002

Mr. Kevin Adler
Remedial Project Manager
U.S. Environmental Protection Agency
Region V, SR-6J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Final PCB-Impacted Soil Excavation in the Wetland Area
Construction Completion Report
ACS NPL Site

Dear Mr. Adler:

Please find enclosed two copies of the Final PCB-Impacted Soil Excavation in the Wetland Area Construction Completion Report (CCR) for the American Chemical Service NPL Site in Griffith, Indiana. This report is submitted in accordance with the Final Remedial Design Report (MWH, August 1999).

This report incorporates our responses to the U.S. EPA comments regarding the June 2002 version of the CCR. We have attached a copy of the U.S. EPA letter dated October 30, 2002 accepting the CCR upon incorporation of these comments.

We are also sending three copies of this report to IDEM, one copy of this report to Black & Veatch, and one copy to each member of the ACS Tech Review Committee. If you need additional copies of this report please let me know and we can forward them to you, or whomever you specify.

Sincerely,

MWH

Peter J. Vagt, Ph.D., CPG
Project Manager

cc: Prabhakar Kasarabada, IDEM (3 copies)
Larry Campbell, B&V (1 copy)
ACS Tech Review Committee (1 copy each)

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604

October 30, 2002

Barbara A. Magel, Esq.
Karaganis, White & Magel
414 North Orleans Street, Suite 810
Chicago, IL 60610

Re: American Chemical Service, Inc., Griffith, IN

Dear Ms. Magel:

This letter transmits the U.S. Environmental Protection Agency's (U.S. EPA's) acceptance of the "PCB-Impacted Soil Excavation in the Wetland Area Construction Completion Report" for the American Chemical Service, Inc. (ACS) site, Griffith, IN. The ACS potentially responsible party RD/RA Group submitted the initial soil excavation report to U.S. EPA on July 1, 2002 and then submitted acceptable responses to our comments on this report to us on October 7, 2002. Please send us 2 copies of the revised report for our files.

Congratulations on the successful completion of this phase of this project. I look forward to the successful completion of the remainder of the remedial actions to be constructed at the ACS site over the next few years.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Mayka", is written over the typed name and title of the signatory.

James N. Mayka, P.E.
Chief, Remedial Response Branch

cc: M. McClary, C-14J
K. Adler, SR-6J
P. Kasarabada, IDEM

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MWH File No. 2090601

Prepared For:

American Chemical Service NPL Site RD/RA Executive Committee

Prepared by:



Robert A. Adams, P.E.
Senior Engineer

NOVEMBER 14, 2002

Date

Approved by:



Peter Vagt, Ph.D., CPG
Project Manager

November 14, 2002

Date

TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
ACRONYMS AND ABBREVIATIONS	iii
1.0 INTRODUCTION.....	1
1.1 Site Background.....	1
1.2 Purpose of PCB-Impacted Soil Excavation	2
1.3 Report Organization	2
2.0 WETLAND CHARACTERIZATION.....	4
2.1 Wetland Investigation	4
2.1.1 Remedial Investigation.....	4
2.1.2 Phase I Wetland Investigation.....	4
2.1.3 Phase II Wetland Investigation	4
2.2 PCB-Impacted Soil Excavation Work Plan	5
3.0 PCB-IMPACTED SOIL EXCAVATION	7
3.1 Site Preparation	7
3.1.1 Field Location of Extents of Excavation.....	7
3.1.2 Preparation of the Fire Pond Stockpile Area.....	7
3.2 Clearing and Grubbing.....	8
3.3 Wetland Access and Dewatering Methods	8
3.4 Excavation Methods.....	8
3.5 Confirmation Samples.....	9
3.5.1 Establishing the Number and Locations of Confirmation Samples	9
3.5.2 Confirmation Sample Collection	10
3.5.3 Confirmation Sample Results	11
3.6 Transportation and Placement of Soil in the Fire Pond Area.....	12
3.7 Characterization of the Stockpiled Soil	12
3.8 Decontamination Procedures	13
4.0 WETLAND RESTORATION ACTIVITIES	14
4.1 Wetland Restoration Work Plan	14
4.2 Open-Water Pond Construction and Material Staging in the Off-Site Area.....	14
5.0 MATERIAL TESTING AND QUALITY CONFIRMATION	16
6.0 HEALTH AND SAFETY	18
7.0 SUMMARY	19
8.0 REFERENCES.....	20

TABLES

Table 1	Final Confirmation Sample Results for PCB-Impacted Soil Excavation in Wetland Area (Compuchem Laboratories)
Table 2	Interim Confirmation Sample Results that Exceeded Cleanup Objective (Compuchem Laboratories)
Table 3	Screening Sample Results (Simalabs International)
Table 4	Stockpile Screening Results (Simalabs International)
Table 5	Stockpile Characterization Results (Compuchem Laboratories)
Table 6	Wipe Sample Results from Decontaminated HDPE Panels (Simalabs International)

FIGURES

Figure 1	Confirmation Sampling Locations for PCB-Impacted Soil Excavation in Wetland Area
Figure 2	Final Contours of Excavation of PCB-Impacted Soil in Wetland Area
Figure 3	Final Extents of Wetland Open-Water Pond

APPENDICES

Appendix A	Summary Information from 1996 Phase II Wetland Investigation Technical Memorandum
Appendix B	Section 404 Permit Equivalency Letter from the U.S. Army Corps of Engineers
Appendix C	A Chronological Summary of Construction Activities
Appendix D	Photograph Log
Appendix E	Laboratory Analyses <ul style="list-style-type: none">• Confirmation Samples (Compuchem)• Stockpile Sample Results (Compuchem)• Wipe Sample Results (Simalabs)
Appendix F	Revision to Wetland Restoration Program Letter from MWH

ACRONYMS AND ABBREVIATIONS

ACS	American Chemical Service, Inc.
bgs	Below ground surface
CCR	Construction Completion Report
GPS	Global Positioning System
GWTP	Groundwater Treatment Plant
HDPE	High density polyethylene
IDEM	Indiana Department of Environmental Management
MEI	Midwest Environmental, Inc.
Mg/kg	Milligram per kilogram
PCB	Polychlorinated biphenyls
PGCS	Perimeter Groundwater Collection System
PPE	Personal Protective Equipment
PRG	Preliminary Remediation Goal
QAPP	Quality Assurance Project Plan
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RISC	Risk Integrated System of Closure
ROD	Record of Decision
Site	American Chemical Service, Inc. Site
TCL/TAL	Target Compound List and Target Analyte List
TSCA	Toxic Substances Control Act
U.S. EPA	United States Environmental Protection Agency
USACE	United States Army Corps of Engineers
µg/kg	microgram per kilogram

1.0 INTRODUCTION

This Construction Completion Report (CCR) summarizes work undertaken in August and September 2001 to remediate polychlorinated biphenyl (PCB)-impacted soil from the wetland area located in the west portion of the American Chemical Service, Inc. (ACS) NPL Site (Site) in Griffith, Indiana.

The principal components of the remedial activities were:

- The excavation of PCB-impacted soil from a delineated portion of the wetland area and collection and analysis of confirmation samples to confirm that the cleanup objective was met. This task is listed as 1.d. in Appendix G of the Consent Decree.
- The restoration of the wetland through the construction of an open-water pond. This task was performed after the excavation of PCB-impacted soil and was not listed separately in Appendix G of the Consent Decree.
- The placement of the excavated PCB-impacted soil into the Fire Pond Area as the first part of the Fire Pond Closure task identified in the Final Remedial Design Report (Consent Decree task item 1.a.). The former Fire Pond was located in the center of the On-Site Area of the Site. The remaining Fire Pond Closure activities will be completed in conjunction with the installation of the On-Site Area Interim Engineered Cover (Consent Decree task item 5.c.).

1.1 SITE BACKGROUND

The Site includes an active chemical blending plant (American Chemical Service, Inc.) located at 420 South Colfax Avenue in Griffith, Indiana. The plant began operations in 1955 to reclaim spent solvents. The Site accepted solvent mixtures containing alcohols, ketones, esters, chlorinated organics, aromatic organics, aliphatics, and glycols that contained various residues. ACS stored these materials on site for a period before reclaiming the solvent by distillation. Reclaimed product was returned to the ACS client and the still bottoms material was disposed of both on site and at regulated facilities.

Other processes that have operated at the Site since its inception include specialty chemical manufacturing in batches, burning of still bottoms and non-reclaimable materials in incinerators (1965-1970), epoxidation and bromination operations, and storage and blending of waste streams for ACS's secondary fuel program. The ACS facility did not receive approval of its Resource Conservation and Recovery Act (RCRA) Part B Permit Application in 1990 and ceased management of waste material at that time.

A two-phased wetland investigation was performed by MWH (formerly Montgomery Watson) in 1996. It indicated that PCBs had migrated into the wetland area west of the ACS plant. Although PCBs are not currently handled or stored on Site, a possible source

of the PCB contamination is from historical surface water runoff from the plant that flowed along an on-site channel that discharged to the wetland. This surface water runoff may have transported PCBs or soils containing PCBs. The results of these investigations are further discussed in Section 2.1 of this report. The United States Environmental Protection Agency's (U.S. EPA) Record of Decision (ROD) included removal of these soils in the selected Site remedy.

1.2 PURPOSE OF PCB-IMPACTED SOIL EXCAVATION

The purpose of the PCB excavation was to remove the PCB-impacted soil delineated in the wetland area west of the Site in order to prevent ingestion and dermal contact with the contaminated material. The work was performed in accordance with the U.S. EPA and Indiana Department of Environmental Management (IDEM)-approved *PCB-Impacted Soil Excavation Work Plan* (Montgomery Watson, April 1999) and the *Final Remedial Design Report* (Montgomery Watson, August 1999).

1.3 REPORT ORGANIZATION

This CCR is organized in eight sections to document the construction activities associated with the excavation and restoration of PCB-impacted soil from the wetland area. The eight sections are summarized below:

- **Section 1: Introduction.** This section lists the purpose of the work activities and summarizes the Site history.
- **Section 2: Wetland Characterization.** This section summarizes the findings of the Remedial Investigation (RI) and the Phase I and Phase II Wetland Investigations regarding PCB contamination in the wetland. It also discusses the PCB-Impacted Soil Excavation Work Plan that formed the basis for remedial action.
- **Section 3: PCB-Impacted Soil Excavation.** This section summarizes the preparation for and the excavation of PCB-impacted soil from the wetland area. It also **discusses** the collection and analysis of confirmation samples, the transportation and staging of excavated material in the Fire Pond Area, and the decontamination procedures employed during and after the construction work.
- **Section 4: Wetland Restoration Activities.** This section summarizes the wetland restoration activities, including the construction of an open-water pond.
- **Section 5: Material Testing and Quality Confirmation.** This section outlines the material testing and quality confirmation methods employed including the collection and analysis of confirmation samples.

- **Section 6: Health and Safety.** This section summarizes the health and safety measures maintained during the project.
- **Section 7: Summary.** This section summarizes the work detailed in this report.
- **Section 8: References.** This section lists documents referred to in the preparation of this report.

2.0 WETLAND CHARACTERIZATION

2.1 WETLAND INVESTIGATION

2.1.1 Remedial Investigation

MWH conducted a RI of the Site in 1989 and 1990 to evaluate potential contamination in all site media. Among all the other samples, one surface water sample and six sediment samples were collected from the wetland area north and west of the ACS facility. The samples were analyzed for the full Target Compound List and Target Analyte List (TCL/TAL) including PCBs. The surface water sample did not contain PCBs, however two of the sediment samples did (0.3 milligram per kilogram (mg/kg) and 5.4 mg/kg of PCBs). As a result of the findings of RI, the U.S. EPA requested further pre-design investigation of wetland area to delineate the extent of contamination. The U.S. EPA also established a PCB cleanup objective of 1 mg/kg for the wetland area.

2.1.2 Phase I Wetland Investigation

To determine the potential extent of PCB impact in the wetland area, MWH conducted a two-phase wetland investigation in 1996. Phase I of the investigation was conducted in May 1996. It included the collection of sediment and surface water samples throughout the wetland area located north and west of the Site. The samples were analyzed for numerous compounds including PCBs and metals. The findings of this investigation were summarized in the *Wetland Investigation Technical Memorandum* (Montgomery Watson, July 1996).

The Phase I Wetland Investigation indicated that PCBs were present in the wetland area west of the ACS plant. No detectable levels of PCBs were found in the surface water samples collected. However, 19 of the 22 sediment samples collected contained PCBs of concentrations ranging from less than 0.07 mg/kg to 125 mg/kg. The locations where PCBs had been detected were scattered across the wetland area, with no discernable site-wide distribution pattern. However, the highest PCB levels at the Site were found along the historic drainage channel from the ACS facility west into the wetland. The six sediment samples collected along this channel ranged in PCB concentration from less than 1 mg/kg to 125 mg/kg. Since the sampling locations were relatively widely spread out (located at intervals of 50-150 feet) and not in a grid pattern, further study was needed to delineate the extents of PCB impact.

2.1.3 Phase II Wetland Investigation

MWH conducted Phase II of the Wetland Investigation during November 1996 to further define the vertical and lateral extents of the PCB contamination identified in the Phase I investigation within and along the drainage channel. The results from this investigation are summarized in the *Phase II Wetland Investigation Technical Memorandum* (Montgomery Watson, February 1997).

During the Phase II investigation, sediment samples were collected at three depths at 63 locations concentrated along the drainage pathway west of the ACS facility. Samples

were collected from depth intervals of 0-0.5 feet below ground surface (bgs), 0.5-1 feet bgs, and 1-1.5 bgs PCB concentrations above 1 mg/kg were found at 32 of the locations.

The combined results of the Phase I and Phase II Investigations indicated that the PCB impacts were concentrated along the drainage pathway west of the ACS facility. PCBs were limited to the upper foot of soil in most of this area, though the detected contamination extended to 1.5 feet below bgs in a small area in the eastern portion of the drainage pathway closest to the ACS Site.

The data from the previous Wetland Investigation were combined to create four summary figures that were included in the *Phase II Wetland Investigation Technical Memorandum*. These figures are provided in Appendix A of this report. The figures show the total PCB isoconcentration contours for three depth ranges (0-0.5 feet, 0.5-1 feet, and 1-1.5 feet).

Although PCBs are not currently handled or stored on Site, it was suggested that a possible source of the PCB contamination was from historical surface water runoff from the facility that flowed along an on-site channel that discharged to the wetland. This surface water runoff may have transported PCBs or soils containing PCBs. An aerial photograph from 1980 indicated that a channel ran from near the ACS plant facility fence west into the wetland.

The investigation concluded that approximately 1.3 acres of wetland contained PCB concentrations above 1 mg/kg or 1,000 micrograms per kilogram ($\mu\text{g/kg}$). Based on the lateral and vertical extents shown on the PCB isoconcentration maps, it was calculated that approximately 2,100 total cubic yards of soil contained PCB concentrations greater than the established cleanup objective of 1 mg/kg. The investigation also concluded that no toxicity testing and/or bioaccumulation studies were needed for the Site due to the small area impacted by PCBs.

2.2 PCB-IMPACTED SOIL EXCAVATION WORK PLAN

MWH used the results of the Phase I and Phase II Wetland Investigations discussed in Section 2.1 to develop a Work Plan in 1999 to guide the excavation of the PCB-impacted material. The *PCB-Impacted Soil Excavation Work Plan* detailed excavation of PCB-impacted soil in the wetland with PCB concentrations greater than 1 mg/kg. It provided for the on-site consolidation of soil with PCB concentrations greater than 1 mg/kg but less than 50 mg/kg. Soil found to contain concentrations greater than 50 mg/kg would be disposed of off-site at a licensed Toxic Substances Control Act (TSCA)-approved landfill. The Work Plan also outlined the scope of work for the completion of the task.

A Section 404 permit equivalency for construction in a wetland was submitted to the U.S. Army Corps of Engineers (USACE) on May 27, 1999. The application for permit equivalency included the Wetland Characterization and Site Restoration Plan that was also submitted to IDEM (see Section 4.1 of this report). In a letter dated July 16, 1999 the

USACE confirmed that a permit was not required for the proposed excavation plan. A copy of the letter is included in Appendix B.

3.0 PCB-IMPACTED SOIL EXCAVATION

A chronological summary of the PCB impacted soil excavation activities is included in Appendix C. Photographs are included in Appendix D.

3.1 SITE PREPARATION

3.1.1 Field Location of Extents of Excavation

Fieldwork for the excavation of PCB-impacted soil was scheduled for 2001 in the summer when the water levels are typically at their lowest annual levels and the chance of inundation by surface water is also lowest.

The excavation areas were staked out first in April 2001 for planning purposes and again in July 2001 prior to beginning soil excavation. A global positioning system (GPS) unit was used to establish the three excavation areas from the detailed survey of sampling locations conducted for the Phase I and II investigation. The stakes were offset approximately 10 to 20 feet beyond the excavation area boundaries. The analytical results and coordinate positions included in the Work Plan were used to define the initial excavation areas (see figures in Appendix A). Different colored survey flags denoted the three excavation areas, which are shown on Figure 1. The three areas were:

- 1) a small western area designated as containing PCB concentrations greater than 50 mg/kg;
- 2) a small eastern area designated as containing PCB concentrations greater than 50 mg/kg; and
- 3) a larger area that encompassed both of the smaller areas. This area was designated as containing PCB concentrations greater than 1 mg/kg and less than 50 mg/kg.

3.1.2 Preparation of the Fire Pond Stockpile Area

Prior to excavation, the area west of the Fire Pond on the ACS facility was graded to act as a staging area for excavated PCB-impacted wetland material. The ground surface was sloped toward the Fire Pond so that water from the stockpiled soil would drain into the Fire Pond rather than potentially run off the Site. A clay berm was constructed around the stockpile area both to limit access and provide stormwater protection for the stockpiled material. The clay was imported from a borrow source in Merrillville, Indiana. The same source was also used to provide clay for the installation of the Off-Site Area Interim Engineered Cover during July and August 2001. The clay source was analyzed prior to the Interim Engineered Cover project and found to meet both U.S. EPA's Region IX Industrial Soil Preliminary Remediation Goals (PRGs) and IDEM's Risk Integrated System of Closure (RISC) Nonresidential Default Closure Levels.

3.2 CLEARING AND GRUBBING

Midwest Environmental Services (MEI), the subcontractor selected to perform the excavation and wetland restoration activities, mobilized to the Site on July 24, 2001. The first activity was the clearing of freestanding cattails, brush, and trees from inside the staked area and across a buffer zone surrounding it. Ground vegetation, such as weeds, cattails, and brush, which could not be easily separated from the soil, was managed along with the soil, as described in Section 3.6.

3.3 WETLAND ACCESS AND DEWATERING METHODS

Access to the excavation area was enhanced by lowering the water level approximately three feet and installing a temporary access road. MWH lowered the water table through both passive and active dewatering methods. MWH began passive dewatering in June 2001 by redirecting the Groundwater Treatment Plant (GWTP) discharge south of the railroad tracks instead of into the wetland. The discharge redirection was continued for the duration of the project to aid in lowering the wetland's water levels and help in the soil excavation process. Stormwater runoff from the ACS facility normally drains into the wetland. However, a temporary stormwater diversion system was constructed to capture runoff and discharge it south of the railroad tracks which form the southern boundary of the wetland area.

MWH also performed active dewatering by constructing a trench to an approximate depth of five feet bgs along the north side of the temporary access road described below. Water was collected from a sump at the east end of the trench and pumped to the GWTP for treatment.

To provide access and limit direct contact with the wetland soils, a temporary access road was installed in late July 2001 that extended from the GWTP approximately 700 feet into the wetland. First, a geotextile fabric was unrolled along the proposed roadway and then a series of six-foot by twelve-foot high-density polyethylene (HDPE) panels were assembled on top of geotextile fabric that had been laid on the wetland surface. The panels were connected together with interlocking fasteners. The roadway panels were placed by an off-road loader equipped with lifting forks. The road, designed originally for use in the swamps of Louisiana, facilitated equipment and truck mobility through the wetland area.

3.4 EXCAVATION METHODS

MEI began excavation of the wetland's delineated PCB-impacted soil areas on August 8, 2001. The initial wetland excavation was completed on August 23, 2001. Further vertical and lateral excavation was needed in some areas to meet the cleanup objective. The final excavation area was completed on September 26, 2001.

An exclusion zone was established during excavation by setting up orange snow fencing at the entrance of the temporary access road. The entryway into the exclusion zone was left open during most of the excavation process to facilitate truck entrance and exit. The entrance was located behind the GWTP, well removed from public access. The HDPE road allowed the trucks access to the excavation area while eliminating the potential for them to track soil out of the exclusion zone.

The Work Plan called for excavation depths of approximately 12 inches bgs on the western half of the excavation area and approximately 18 inches bgs on the eastern half. An excavator with a 35-foot long boom and a 1.5 cubic yard smooth-edged bucket performed the excavation. Excavated material was loaded directly into dump trucks and transported to the prepared area just west of the Fire Pond.

The excavation sequence included three steps. First, excavation began with areas designated as containing material with PCB concentrations less than 50 mg/kg because these areas were located around the perimeter of the delineated area. Work progressed until each area designated as "less than 50 mg/kg" was excavated except for those located beneath the temporary road. Second, the road panels were removed one by one to allow excavation to continue underneath the access road. Third, when regions designated as "greater than 50 mg/kg" were encountered, they were excavated and loaded into separate trucks and stockpiled in separate areas in the Fire Pond Area on 6-mil poly plastic. When switching between excavation in areas "greater than 50 mg/kg" and "less than 50 mg/kg," the excavator and trucks were visually observed to make sure they were free of excess soil before they began excavation work in a new area.

Approximately 4,900 in-place cubic yards of PCB-impacted material were removed from the wetland according to the post-excavation survey data provided by Area Survey. MWH estimates that approximately 3,900 cubic yards of material were removed from areas designated as containing PCB concentrations greater than 1 mg/kg but less than 50 mg/kg and approximately 1,000 cubic yards were removed from areas designated as containing PCB concentrations greater 50 mg/kg. These areas are depicted on Figure 1.

The volume of excavated material was larger than predicted in the Work Plan for two reasons. First, MWH extended the initial wetland excavation farther both laterally and vertically than the Work Plan called for to ensure that all impacted material was removed. Second, the final excavation extents were deeper and wider still in some locations because of further excavation in areas that did not meet the cleanup objective initially. Final excavation extents and elevation contours are shown in Figure 2.

3.5 CONFIRMATION SAMPLES

3.5.1 Establishing the Number and Locations of Confirmation Samples

MWH collected post-excavation soil confirmation samples from the excavation area to demonstrate that the cleanup objective of 1 mg/kg PCBs had been met. The Work Plan called for 19 soil confirmation samples to be collected in accordance with the

recommendations of the U.S. EPA Guidance document entitled *Field Manual for Grid Sampling of PCB Spill Site to Verify Cleanup* dated May 1996. Upon further review of the U.S. EPA Guidance document, MWH determined that 37 confirmation samples (excluding quality control samples) was a more applicable recommendation for the anticipated size and shape of the excavation.

The U.S. EPA Guidance document also provided guidance on selecting locations for the confirmation samples to be collected. The method is based on creating a hexagonal sampling grid to establish a "sampling circle". However, this method was not designed for long, elliptical contamination areas, as was the case at the Site. This is stated in the second paragraph of Section 5.7.1 of the U.S. EPA Guidance document:

"In cases where the contaminated area is very different from a circle (e.g., a very elongated ellipse) the sampling circle may be a poor approximation of the contaminated area, and a moderate to large percentage of the sampling points may fall outside of the contaminated area."

This was confirmed when MWH utilized the procedure in the U.S. EPA Guidance document to establish the confirmation sampling grid and only 6 of the 37 confirmation samples were located within the anticipated contamination area. Because the methods in the U.S. EPA Guidance document were not ideal for elliptical contamination areas, MWH proposed to collect 37 confirmation samples within the extents of the excavation area. The proposed plan included 29 floor samples and 8 sidewall samples. Thirty-seven confirmation sampling locations were established in the August 6, 2001 memo from MWH to the U.S. EPA and IDEM entitled *PCB-Impacted Soil Excavation Confirmation Sampling Plan*.

3.5.2 Confirmation Sample Collection

Confirmation samples were collected throughout the excavation activities, beginning on August 9, 2001 and continuing until September 26, 2001. Confirmation samples were collected after excavation in a given area was completed. The confirmation sample locations, as determined in the Sampling Plan, were field-located by MWH using a GPS unit. Confirmation sample locations are shown on Figure 1.

During the excavation activities, five additional confirmation-sampling locations were established in the field to provide increased confirmation coverage of the excavation area. Therefore, confirmation samples were collected at a total of 42 locations.

Two laboratories were used to analyze the confirmation samples collected. The analytical data provided by the laboratory specified in the Agency-approved Quality Assurance Project Plan¹ (QAPP) (Compuchem Laboratories) was used to verify that the cleanup objectives had been met. However, due to the five-day turn-around-time required by

¹ The QAPP was in draft form during the collection and analysis of the confirmation soil samples. It was approved by the U.S. EPA and IDEM in November 2001.

Compuchem for analysis, a local laboratory (Simalabs International of Merrillville, Indiana) was used to provide data more rapidly for screening purposes and to help direct excavation activities and locations. Simalabs was able to provide analytical results within 24 hours of sample collection to allow excavation to proceed without having to wait for results from Compuchem.

Confirmation samples were split during collection, with one sample sent to Compuchem and the duplicate sample sent to Simalabs. Samples sent to both laboratories were collected, transported, and analyzed in accordance with the QAPP, however only the Compuchem data was utilized for confirmation purposes.

The confirmation samples and quality control samples were collected, transported, analyzed, and validated in accordance with the QAPP. MWH collected samples wearing nitrile gloves and using a stainless steel spoon and bowl. As part of the decontamination process, MWH used Alconox solution to decontaminate the sampling equipment between samples. Samples were packaged with ice in coolers and sent with chains-of-custody to the laboratory for analysis.

3.5.3 Confirmation Sample Results

Forty-two samples were collected in the initial round of confirmation samples and analyzed by Compuchem. Split-samples were also analyzed by Simalabs for screening purposes. Thirty-four of these sample locations met the cleanup objective, while the other eight samples locations did not meet the cleanup objective and required further excavation. The eight locations that did not meet the cleanup objective the first time were locations 8, 24, 28, 30, 34, 35, 37, and 42. These locations are shown on Figure 1.

Sample locations that did not meet the cleanup objective were marked. Additional material was removed from an area approximately 40 feet x 40 feet x 1 foot deep around each of these locations and the location was resampled. These dimensions were selected because the sample locations were spaced approximately 40 feet apart, and 20 feet in each direction (40 feet across) was half the distance to the next sample location. The one exception was location 42, a sidewall sample, where the excavation was extended approximately five feet laterally into the sidewall and resampled.

A second round of confirmation samples was collected from these eight further-excavated locations. Six of these locations met the cleanup objective, however two locations, 37 and 42, did not meet the cleanup objective. Additional material was removed from an area approximately 40 feet x 40 feet x 1 foot deep around location 37. The excavation at location 42 was extended an additional five feet laterally. Both locations were sampled a third time. After the third sampling round all sampling locations had met the cleanup objective.

The final analytical data are contained in Appendix E. Table 1 summarizes the confirmation sample results that met the cleanup objective. Table 2 summarizes the confirmation sample results that did not meet the cleanup objective. Table 3 summarizes the screening data reported by Simalabs.

3.6 TRANSPORTATION AND PLACEMENT OF SOIL IN THE FIRE POND AREA

The material excavated from the wetland areas delineated as PCB-impacted was transported by dump truck to the Fire Pond Area. MWH had previously prepared the Fire Pond Area as a staging area (see Section 3.1.2). Excavated material was segregated into piles as containing PCB concentrations "greater than 50 mg/kg" and "less than 50 mg/kg." Due to relatively dry weather and effective wetland dewatering practices, the excavated material in the Fire Pond Area did not need to be drained.

3.7 CHARACTERIZATION OF THE STOCKPILED SOIL

MWH sampled the material stockpiled in the Fire Pond Area to characterize the soil piles and determine if any contained PCB concentrations greater than 50 mg/kg. According to the Work Plan, soil characterized as having PCB concentrations greater than 50 mg/kg (including associated vegetation) was to be sent for disposal to a TSCA-approved landfill.

Composite screening samples were collected every day or two from the material recently added to the Fire Pond Area. Twenty screening samples were collected and analyzed by Simalabs. The screening samples are summarized in Table 4. At the completion of the excavation process, five composite characterization samples were also collected and analyzed by Compuchem. These characterization results are included in Table 5.

No composite samples from either stockpile or from either laboratory yielded analytical PCB concentrations above 50 mg/kg (see further discussion in Section 5.0). The highest PCB detection of stockpiled material reported by Compuchem was 3.4 mg/kg (3,390 µg/kg). Using these stockpile characterization sample results, MWH characterized all soil excavated from the wetland and staged in the Fire Pond Area as having PCB concentrations less than 50 mg/kg. Because no excavated material exceeded the 50 mg/kg PCB concentration threshold as established in the Work Plan, it was not necessary to transport any to a TSCA-approved landfill.

After analytical results confirmed that excavated material contained PCB concentrations less than 50 mg/kg, the material was placed in the Fire Pond as part of the planned closure of the Fire Pond. After the Fire Pond was backfilled and compacted by a bulldozer, the remaining excavated material was regraded on top of the former Fire Pond to create a slight mound. The area has been temporarily "fenced" by the berm of imported clay. It will later be covered and the Fire Pond will be closed in conjunction with the installation of the On-Site Area Interim Engineered Cover.

During July 2002, approximately 4,000 cubic yards of this PCB-impacted material was relocated to the Off-Site Area where it was placed and compacted in drainage swale 5. It was covered with 12 inches of compacted clay and the final engineered cover including a flexible membrane liner. These relocation activities will also be discussed in the Off-Site Area Final Engineered Cover CCR.

3.8 DECONTAMINATION PROCEDURES

Throughout the excavation process there was a potential for impacted soil to be transported outside of the excavation area or the Fire Pond Area on the tires of the vehicles traveling back and forth. To prevent this, a decontamination station was set up at the east end of the temporary access road and a second station was set up at the east entrance of the stockpile area near the Fire Pond. Each station contained a pressure washer to clean off heavy equipment and/or personal protective equipment (PPE) as needed. The excavation area decontamination station also included Tyvek coveralls and a boot wash for use as needed. In addition, the temporary access road was regularly swept to remove any loose soil material and the tires of trucks transporting soil were examined to make sure additional soil was not transported outside of the excavation area. Due to active dewatering and favorable warm weather conditions, the excavated soil was relatively dry.

Upon completion of a given excavation area, the temporary road panels were removed and transported to the concrete pad in the north part of the On-Site Area (the concrete pad had been constructed for temporarily staging the drums exhumed during the On-Site Area Drum Removal). Personnel wearing Level D modified PPE, including Tyvek coveralls and safety glasses, decontaminated the panels by pressure washing them on the concrete pad. The rinse water used to decontaminate the road panels was collected in the staging pad's sump and pumped to the GWTP for treatment. After the panels were decontaminated, representative wipe samples were collected and analyzed. When the wipe samples showed the panels were clean, they were removed from the Site. Analytical PCB results of the wipe samples are summarized in Section 5.0. The geotextile fabric used underneath the road panels was removed and placed into the Fire Pond along with the impacted sediment located beneath it.

At the completion of the project, equipment that had come into direct contact with PCB-impacted soil prior was cleaned with a high-pressure washer prior to demobilization from the Site. The decontamination area directly west of the GWTP was used for this task.

4.0 WETLAND RESTORATION ACTIVITIES

4.1 WETLAND RESTORATION WORK PLAN

A Wetland Characterization and Site Restoration Plan was prepared by the wetland specialists, the Environmental Planning Team of Chicago, in May 1999, as discussed in the Work Plan. The Wetland Characterization and Site Restoration Plan was included in the *Water Quality Certification Request* submitted to IDEM on May 27, 1999 and also provided to the U.S. EPA.

The Site Restoration Plan proposed two options for the restoration of the wetland area after the removal of PCB-impacted soil. The first restoration option was to import surface soil and place it in the excavation remaining after removal of PCB-impacted soil and regrade to the original contours. The area would then be replanted with seeds and seedlings of typical, native wetland species. The second option was to "over-excavate" to remove additional soil after the completion of the PCB-impacted soil excavation. The area would then be restored as an open-water wetland area. The Work Plan discussed these two restoration options.

The reported consensus among the regulatory personnel in the two years prior to the excavation work, along with the recommendation of a wetland specialist consulted by MWH, led MWH to select the open-water restoration method. The letter entitled *Revision to Wetland Restoration Program* sent to the U.S. EPA and IDEM August 21, 2001 outlined the preferred restoration approach. The open-water restoration plan was considered preferable because open water would support a more diverse habitat year round as well as provide a better seasonal habitat for migratory fowl. Appendix F contains the August 21, 2001 letter entitled *Revision to Wetland Restoration Program*, including a sketch of the open-water pond wetland restoration plan. The U.S. EPA and IDEM approved the revised restoration plan by email messages. The revision was agreed upon during the first week of wetland restoration activities in September 2001.

4.2 OPEN-WATER POND CONSTRUCTION AND MATERIAL STAGING IN THE OFF-SITE AREA

The restoration of the wetland by the construction of an open-water pond began on September 4, 2001 and was completed on September 24, 2001. Work began in areas that had been confirmed as meeting the PCB cleanup objective of 1 mg/kg.

As shown in Figure 3, the western two-thirds of the excavation area was over-excavated to construct an open-water pond. Additional material was excavated and the pond was graded to depths varying from approximately one foot along the perimeter to approximately nine feet in the center. During the excavation process, various-sized mounds of soil were placed at separated locations along the perimeter of the pond. These mounds were recommended by IDEM in order to promote varying soil conditions and improve the potential for

increased biodiversity. The eastern edge of the pond was located so that it would remain a minimum of 50 feet away from the Perimeter Groundwater Collection System (PGCS) extraction trench that runs across the eastern portion of the excavation area. This was done to minimize the potential for water from the new pond to be drawn into the PGCS.

MWH estimates that approximately 6,600 cubic yards of soil were removed from the wetland during pond construction in addition to the 4,900 cubic yards of soil removed during the excavation of PCB-impacted material. MWH used the record of the number of truckloads of material removed during pond construction to estimate this total. This soil was removed from areas that had already met the PCB cleanup objective. It was stockpiled in the eastern portion of the Off-Site Area nearest Colfax Avenue. The Off-Site Area stockpiled material was secured within installed silt fencing. The material is being stockpiled for future use as root zone in the Off-Site Area final engineered cover.

The eastern portion of the excavated area was restored by backfilling it to original grade with material excavated during the pond construction. The area was further shaped to improve drainage and allow volunteer prairie grasses and plants to populate the area. After the wetland restoration was completed, the GWTP discharge was returned to the designed discharge area, the wetland area.

In addition, the ACS facility stormwater outfall that had been redirected to south of the railroad tracks was returned to its normal configuration. However, the new outfall was rerouted via a drainage swale to the wetland area north of the newly constructed pond, rather than directly discharging into the pond.

5.0 MATERIAL TESTING AND QUALITY CONFIRMATION

Material testing and quality confirmation measures were taken in accordance with the *PCB-Impacted Soil Excavation Work Plan* (Montgomery Watson, April 1999) to assure that the completed excavation of PCB-impacted soil met the applicable performance standards.

The primary method of quality confirmation was the collection and analysis of post-excavation screening and confirmation grab samples from the excavated wetland. As discussed in Section 3.5.2, samples were collected regularly after each excavation section was completed. Each sample was split and one portion was sent to a local laboratory, Simalabs, for a 24-hour turnaround analysis. The other portion was sent to Compuchem for a 5-day turnaround analysis. The Simalabs data were used as screening data to give MWH an initial indication of whether or not a given area was sufficiently excavated to meet the cleanup objective. Compuchem, which followed the requirements of the QAPP, provided data that were used to confirm that a given area was sufficiently excavated to the cleanup objective. The data provided by Compuchem was validated by Laboratory Data Consultants in accordance with the National Functional Guidelines.

In addition to post-excavation wetland confirmation sampling, screening and characterization samples were both collected from the stockpiled material staged in the Fire Pond Area, as discussed in Section 3.7. Excavated material was segregated into two distinct areas: one for soil removed from areas designated as containing PCB concentrations less than 50 mg/kg, and one for soil removed from areas designated as containing PCB concentrations greater than 50 mg/kg.

After all PCB impacted soils had been removed from the wetland, composite characterization samples were collected from the material designated as containing PCB concentrations greater than 50 mg/kg. Compuchem analyzed these characterization samples, which are summarized in Table 5. Composite screening samples were collected throughout the project from the new material added to each area and analyzed by Simalabs (see Table 4). According to the analytical results, all composite screening and characterization samples contained PCBs at concentrations below 50 mg/kg. Consequently, under the requirements of the Work Plan, it was not necessary to transport any of the excavated soils off-site for disposal in a TSCA-approved facility. Instead, material excavated from areas designated as PCB-impacted remains in the Fire Pond Area where it will be covered with an engineered cover.

During the excavation process MWH engineers monitored the depth of excavation with a measuring rod to confirm that it was at least the depth suggested by the Work Plan. In addition, a survey subcontractor surveyed the extents and depths of final excavation to facilitate quantifying the volume of removed material.

After the temporary road panels used to provide access to the wetland area were decontaminated, wipe samples were collected from five randomly selected panels.

A sample was collected using a wipe preserved in hexane and a 10-cm x 10-cm sample template, wiping the sample cloth in four different directions across the sample area. These wipe sample results, which are included in Table 6, resulted in "non-detect" levels of PCBs, confirming that the decontamination process was complete, and that the panels could be returned to their supplier.

6.0 HEALTH AND SAFETY

Health and safety measures outlined in the *Site Safety Plan* (Montgomery Watson, January 1996) and the *Health and Safety Plan Addendum for PCB Sediment Removal in Wetland* (MWH, August 2001) provided the foundation for the performance of this work. The *PCB-Impacted Soil Excavation Work Plan* also included health and safety measures applicable to the work performed. Care was taken to avoid the primary health and safety hazards associated with the work including: slips, trips, falls, being struck by or against heavy equipment, and contact dermatitis due to contact with contaminated material.

Daily tailgate health and safety meetings were conducted throughout the project. The MWH site safety officer and the subcontractor's project safety officer were on site during the project. At each tailgate meeting the importance of safe work practices, especially when working with heavy equipment, was emphasized. Emphasis was also placed upon preventing heat stress due to the hot summer weather that lasted through most of the project. A cooling station was established in the nearby Groundwater Treatment Plant.

Work was conducted in Level D modified PPE, including steel-toed boots, hard hat, and safety glasses. Latex overboots were worn when workers needed to access the excavation area itself. Because the contaminants of concern, PCBs, did not pose an inhalation hazard, air monitoring was not performed during the project.

Access to the excavation area was limited by the chainlink fence at the entrance of the ACS Site. Additionally, an exclusion zone was established with snow fencing at the entrance of temporary access road into the wetland area. A decontamination area was established for donning PPE prior to excavation site entry and doffing following site exit as needed. A pressure washer was available at this location for washing equipment or PPE as needed. The temporary access road was regularly swept off or washed off, as appropriate, to prevent the tracking of excavated material outside of the excavation area. Trucks transporting excavated material were also visually inspected and cleaned off as necessary to prevent the tracking of excavated material.

During the collection of screening, confirmation, and characterization samples of post-excavation and stockpiled areas, Level D modified PPE was worn including latex overboots, nitrile sample gloves, steel-toed boots, hard hat and safety glasses.

7.0 SUMMARY

In accordance with the Agency-approved Work Plan, PCB-impacted soil was removed from the wetland area in the west portion of the Site during August and September 2001. Post-excavation confirmation samples demonstrate that the PCB cleanup objective has been met. Material excavated from the PCB-impacted areas was staged in the Fire Pond Area and characterized through laboratory analysis. Characterization data indicated that the excavated material contained PCB concentrations less than 50 mg/kg, the concentration at which the Work Plan called for off-site disposal at a TSCA-approved facility. Therefore, this material was placed in the Fire Pond and compacted in accordance with the approved remedial design. This constituted the first part of the Fire Pond Closure task to be completed in conjunction with the installation of the On-Site Area Interim Engineered Cover. Some of this material was relocated from the Fire Pond Area to the Off-Site Area during July 2002 where it was placed under the Off-Site Area final engineered cover.

After confirmation samples indicated the PCB cleanup objective had been met, the excavated wetland area was restored through the construction of an open-water pond in the western portion of the excavation area. Material removed during the pond construction was used to backfill the eastern portion of the excavation area to original grade. The area was further shaped to improve drainage and allow volunteer prairie grasses and plants to re-populate the area.

8.0 REFERENCES

1. Field Manual for Grid Sampling of PCB Spill Site to Verify Cleanup (U.S. EPA, May 1986).
2. Remedial Investigation Report (Warzyn, Inc., June 1991).
2. Site Safety Plan (Montgomery Watson, January 1996).
3. Wetland Investigation Technical Memorandum (Montgomery Watson, July 25, 1996).
4. Technical Memorandum Phase II Wetland Investigation (Montgomery Watson, February 1997).
5. PCB-Impacted Soil Excavation Work Plan (Montgomery Watson, April 1999).
6. May 27, 1999 letter from Montgomery Watson to IDEM entitled *Water Quality Certification Request*.
7. The Final Remedial Design Report (Montgomery Watson, August 1999).
8. July 20, 2001 Memo from MWH to U.S.EPA and IDEM entitled *ACS – PCB-Impacted Soil Excavation*.
9. *Health and Safety Plan Addendum for PCB Sediment Removal in Wetland* (MWH, August 2001).
10. PCB-Impacted Soil Excavation Confirmation Sampling Plan (MWH, August 6, 2001).
11. August 21, 2001 Memo from MWH to U.S.EPA and IDEM entitled *Revision to Wetland Restoration Program – ACS NPL Site RD/RA*.
12. Quality Assurance Project Plan (QAPP) for the American Chemical Service, Inc. (ACS) NPL Site in Griffith, Indiana (draft version – Montgomery Watson, March 2001; final version – MWH, November 2001).

TMK/BPG/RAA/SAE/PJV/jmf/jlt/TMK
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Table 1
Final Confirmation Sample Results for PCB-Impacted Soil Excavation in Wetland Area
Compuchem Laboratories
ACS NPL Site
Griffith, Indiana

Sample Identifier	Sample Identification	Date Sampled	PCB Concentrations (ug/kg)							Total PCBs (ug/kg)	Cleanup Objective (ug/kg)	Cleanup Objective Met
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260			
1	MWH-0108-001-001-SS	8/9/01	ND	ND	ND	ND /JJ	ND /JJ	54 /J	ND /JJ	54	1,000	Pass
2	MWH-0108-002-001-SS	8/9/01	ND	ND	ND	ND /JJ	ND /JJ	18 J/J	ND /JJ	18	1,000	Pass
3	MWH-0108-003-001-SS	8/9/01	ND	ND	ND	ND /JJ	ND /JJ	8.7 J/J	ND /JJ	9	1,000	Pass
4	MWH-0108-004-001-SS	8/20/01	ND	ND	ND	ND	ND	10 J/	ND	10	1,000	Pass
5	MWH-0108-005-001-DS	8/9/01	ND	ND	ND	ND /JJ	ND /JJ	ND /JJ	ND /JJ	ND	1,000	Pass
6	MWH-0108-006-001-SS	8/9/01	ND	ND	ND	ND /JJ	ND /JJ	150 /J	ND /JJ	150	1,000	Pass
7	MWH-0108-007-001-SS	8/9/01	ND	ND	ND	ND /JJ	ND /JJ	ND /JJ	ND /JJ	ND	1,000	Pass
8 b	MWH-0108-008-002-SS	9/6/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
9	MWH-0108-009-001-SS	8/10/01	ND	ND	ND	ND /JJ	ND /JJ	13 J/J	ND /JJ	13	1,000	Pass
10	MWH-0108-010-001-SS	8/10/01	ND	ND	ND	ND /JJ	ND /JJ	4.9 J/J	ND /JJ	5	1,000	Pass
11	MWH-0108-011-001-SS	8/20/01	ND	ND	ND	ND	ND	59	ND	59	1,000	Pass
12	MWH-0108-012-001-SS	8/10/01	ND	ND	ND	ND	ND	810	ND	810	1,000	Pass
13	MWH-0108-013-001-SS	8/10/01	ND	ND	ND	ND /JJ	ND /JJ	3.5 J/J	ND /JJ	4	1,000	Pass
14	MWH-0108-014-001-SS	8/20/01	ND	ND	ND	ND	ND	13 J/	ND	13	1,000	Pass
15	MWH-0108-015-001-SS	8/21/01	ND	ND	ND	ND	ND	18 JP/	ND	18	1,000	Pass
16	MWH-0108-016-001-SS	8/13/01	ND	ND	ND	ND	ND	110	ND	110	1,000	Pass
17	MWH-0108-017-001-SS	8/10/01	ND	ND	ND	ND /JJ	ND /JJ	6.7 JP/J	ND /JJ	7	1,000	Pass
18	MWH-0108-018-001-SS	8/13/01	ND	ND	ND	ND	ND	14 J/J	ND	14	1,000	Pass
19	MWH-0108-019-001-SS	8/13/01	ND	ND	ND	ND	ND	11 JP/	ND	11	1,000	Pass
20	MWH-0108-020-001-SS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
21	MWH-0108-021-001-SS	8/14/01	ND	ND	ND	ND	ND	590	ND	590	1,000	Pass
22	MWH-0108-022-001-SS	8/21/01	ND	ND	ND	ND	ND	16 JP/	ND	16	1,000	Pass
23	MWH-0108-023-001-SS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
24 b	MWH-0108-024-002-SS	8/31/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
25	MWH-0108-025-001-SS	8/15/01	ND	ND	ND	ND	ND	330	ND	330	1,000	Pass
26	MWH-0108-026-001-SS	8/21/01	ND	ND	ND	ND	ND	480 JP/	ND	480	1,000	Pass
27	MWH-0108-027-001-SS	8/14/01	ND	ND	ND	ND	ND	40 P/	ND	40	1,000	Pass
28 b	MWH-0108-028-002-SS	9/6/01	ND	ND	ND	ND	ND	54	ND	54	1,000	Pass
29	MWH-0108-029-001-SS	8/14/01	ND	ND	ND	ND	ND	110	ND	110	1,000	Pass
30 b	MWH-0108-030-002-SS	8/31/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
31	MWH-0108-031-001-SS	8/15/01	ND	ND	ND	ND	ND	260	ND	260	1,000	Pass
32	MWH-0108-032-001-SS	8/22/01	ND	ND	ND	ND	ND	260	180 P/	440	1,000	Pass
33	MWH-0108-033-001-SS	8/22/01	ND	ND	ND	ND	ND	120	69	189	1,000	Pass
34 b	MWH-0108-034-002-SS	9/6/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
35 b	MWH-0108-035-002-SS	9/6/01	ND	ND	ND	ND	ND	ND	ND	ND	1,000	Pass
36	MWH-0108-036-001-SS	8/23/01	ND	ND	ND	ND	ND	64	17 J/	81	1,000	Pass
37 c	MWH-0108-037-003-SS	9/26/01	ND	ND	ND	ND	35	24 J/	ND	59	1,000	Pass
38*	MWH-0108-038-001-SS	8/14/01	ND	ND	ND	ND	ND	74	ND	74	1,000	Pass
39*	MWH-0108-039-001-SS	8/14/01	ND	ND	ND	ND	ND	240	ND	240	1,000	Pass
40*	MWH-0108-040-001-SS	8/23/01	ND	ND	ND	ND	ND	540	320	860	1,000	Pass
41*	MWH-0108-041-001-SS	8/23/01	ND	ND	ND	ND	ND	120	82 P/	202	1,000	Pass
42 c*	MWH-0108-042-003-SS	9/26/01	ND	ND	ND	ND	16 JP/	6.9 J/	ND	23	1,000	Pass

Notes:

ND = Not detected

a, b, c = At some locations, multiple samples were collected after further excavation

* = Confirmation Sampling Location added to original sampling plan

All samples are grab samples

Suffix Definitions:

_ / = Data qualifier added by laboratory

_ / = Data qualifier added by data validator

B = Compound is also detected in the blank

J = Result is detected below the reporting limit and is an estimated concentration

P = The Relative Percent Difference (RPD) between the two GC column values is greater than 40%. The higher value has been reported.

JB = Analyte is detected in the sample below the reporting limit and is an estimated concentration. The compound is also detected in the method blank resulting in a potential high bias.

UB = Analyte is not detected at or above the indicated concentration due to blank contamination.

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

JP = Result is detected below the reporting limit and is an estimated concentration. Also, the Relative Percent Difference (RPD) between the two GC column values is greater than 40%. The higher value has been reported.

Table 2
Interim Confirmation Sample Results that Exceeded Cleanup Objective
Compuchem Laboratories
ACS NPL Site
Griffith, Indiana

Sample Identifier	Sample Identification	Date Sampled	PCB Concentrations (ug/kg)							Total PCBs (ug/kg)
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	
8 a	MWH-0108-008-001-SS	8/20/01	ND	ND	ND	ND	ND	3,400	ND	3,400
24 a	MWH-0108-024-001-SS	8/21/01	ND	ND	ND	ND	ND	6,000	ND	6,000
28 a	MWH-0108-028-001-SS	8/22/01	ND	ND	ND	ND	ND	5,800	4200 P/	10,000
30 a	MWH-0108-030-001-SS	8/21/01	ND	ND	ND	ND	ND	29,000	ND	29,000
34 a	MWH-0108-034-001-SS	8/22/01	ND	ND	ND	ND	ND	1,400	980	2,380
35 a	MWH-0108-035-001-SS	8/23/01	ND	ND	ND	ND	ND	1,500	590 P/	2,090
37 a	MWH-0108-037-001-SS	8/23/01	ND	ND	ND	ND	ND	2,400	2,400	4,800
37 b	MWH-0108-037-002-SS	9/6/01	ND	ND	ND	ND	1800 /J	1,100 P/J	600 P/J	3,500
42 a*	MWH-0108-042-001-SS	8/23/01	ND	ND	ND	ND	ND	3,200	2,000	5,200
42 b*	MWH-0108-042-002-SS	8/31/01	ND	ND	ND	ND	920	770	510	2,200

Notes:

ND = Not detected

a, b, c = At some locations, multiple samples were collected after further excavation

Cleanup Objective = 1,000 ug/kg

* = Confirmation Sampling Location added to original sampling plan

All samples are grab samples

Suffix Definitions:

/ = Data qualifier added by laboratory

/_ = Data qualifier added by data validator

B = Compound is also detected in the blank

J = Result is detected below the reporting limit and is an estimated concentration

P = The Relative Percent Difference (RPD) between the two GC column values is greater than 40%. The higher value has been reported.

JB = Analyte is detected in the sample below the reporting limit and is an estimated concentration. The compound is also detected in the method blank resulting in a potential high bias.

UB = Analyte is not detected at or above the indicated concentration due to blank contamination.

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

JP = Result is detected below the reporting limit and is an estimated concentration. Also, the Relative Percent Difference (RPD) between the two GC column values is greater than 40%. The higher value has been reported.

Table 3
Screening Sample Results
Simalabs International
ACS NPL Site
Griffith, Indiana

Sample Location	Sample Identification	Date Sampled	PCB Concentrations (ug/kg)										Total PCBs (ug/kg)	Notes
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268			
1	MWH-0108-001-001-DS	8/9/01	ND	ND	ND	ND	ND	ND	110	ND	ND	110		
2	MWH-0108-002-001-DS	8/9/01	ND	ND	ND	ND	ND	ND	63	ND	ND	63		
3	MWH-0108-003-001-DS	8/9/01	ND	ND	ND	ND	ND	ND	56	ND	ND	56		
4	MWH-0108-004-001-DS	8/20/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
5	MWH-0108-005-001-DS	8/9/01	ND	ND	ND	ND	ND	ND	69	ND	ND	69		
6	MWH-0108-006-001-DS	8/9/01	ND	ND	ND	ND	ND	ND	130	ND	ND	130		
7	MWH-0108-007-001-DS	8/9/01	ND	ND	ND	ND	ND	ND	48	ND	ND	48		
8 a	MWH-0108-008-001-DS	8/20/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
8 b	MWH-0108-008-002-DS	9/6/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
9	MWH-0108-009-001-DS	8/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
10	MWH-0108-010-001-DS	8/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
11	MWH-0108-011-001-DS	8/20/01	ND	ND	ND	ND	ND	460	480	ND	ND	940		
12	MWH-0108-012-001-DS	8/10/01	ND	ND	ND	ND	ND	170	ND	ND	ND	170		
13	MWH-0108-013-001-DS	8/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
14	MWH-0108-014-001-DS	8/20/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
15	MWH-0108-015-001-DS	8/21/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
16	MWH-0108-016-001-DS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
17	MWH-0108-017-001-DS	8/10/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
18	MWH-0108-018-001-DS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
19	MWH-0108-019-001-DS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
20	MWH-0108-020-001-DS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
21	MWH-0108-021-001-DS	8/14/01	ND	ND	ND	ND	ND	110	63	ND	ND	173		
22	MWH-0108-022-001-DS	8/21/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
23	MWH-0108-023-001-DS	8/13/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
24 a	MWH-0108-024-001-DS	8/21/01	ND	ND	ND	ND	ND	1,500	ND	ND	ND	1,500		
24 b	MWH-0108-024-002-DS	8/31/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	labeled "Sample 43" on chain-of-custody	
25	MWH-0108-025-001-DS	8/15/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
26	MWH-0108-026-001-DS	8/21/01	ND	ND	ND	ND	ND	330	ND	ND	ND	330		
27	MWH-0108-027-001-DS	8/14/01	ND	ND	ND	ND	ND	53	ND	ND	ND	53		
28 a	MWH-0108-028-001-DS	8/22/01	ND	ND	ND	55	ND	490	ND	ND	ND	545		
28 b	MWH-0108-028-002-DS	9/6/01	ND	ND	ND	ND	ND	44	ND	ND	ND	44		
29	MWH-0108-029-001-DS	8/14/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
30 a	MWH-0108-030-001-DS	8/21/01	ND	ND	ND	6,400	ND	14,000	ND	ND	ND	20,400		
30 b	MWH-0108-030-002-DS	8/31/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	labeled "Sample 44" on chain-of-custody	
31	MWH-0108-031-001-DS	8/15/01	ND	ND	ND	ND	ND	150	110	ND	ND	260		
32	MWH-0108-032-001-DS	8/22/01	ND	ND	ND	ND	ND	120	ND	ND	ND	120		
33	MWH-0108-033-001-DS	8/22/01	ND	ND	ND	ND	ND	76	ND	ND	ND	76		
34 a	MWH-0108-034-001-DS	8/22/01	ND	ND	ND	ND	ND	440	280	ND	ND	720		
34 b	MWH-0108-034-002-DS	9/6/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
35 a	MWH-0108-035-001-DS	8/23/01	ND	ND	ND	ND	ND	270	ND	ND	ND	270		
35 b	MWH-0108-035-002-DS	9/6/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
36	MWH-0108-036-001-DS	8/23/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
37 a	MWH-0108-037-001-DS	8/23/01	ND	ND	ND	ND	ND	250	460	ND	ND	710		
37 b	MWH-0108-037-002-DS	9/6/01	ND	ND	ND	ND	ND	1,400	ND	ND	ND	1,400		
37 c	MWH-0108-037-003-DS	9/26/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
38*	MWH-0108-038-001-DS	8/14/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		
39*	MWH-0108-039-001-DS	8/14/01	ND	ND	ND	ND	ND	63	ND	ND	ND	63		
40*	MWH-0108-040-001-DS	8/23/01	ND	ND	ND	ND	ND	69	ND	ND	ND	69		
41*	MWH-0108-041-001-DS	8/23/01	ND	ND	ND	ND	ND	ND	36	ND	ND	36		
42 a*	MWH-0108-042-001-DS	8/23/01	ND	ND	ND	ND	ND	1,900	710	ND	ND	2,610		
42 b*	MWH-0108-042-002-DS	8/31/01	ND	ND	ND	ND	ND	ND	280	ND	ND	280	labeled "Sample 45" on chain-of-custody	
42 c*	MWH-0108-042-003-DS	9/26/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND		

Notes

Sample results were used for screening purposes only

ND = Not detected

a, b, c = At some locations, multiple samples were collected

All samples are grab samples

Clean-up Objective = 1,000 ug/kg

Table 4
Stockpile Screening Results
Simalabs International
ACS NPL Site
Griffith, Indiana

Sample Location	Sample Identification	Date Sampled	PCB Concentrations (ug/kg)									Total PCBs (ug/kg)	Notes
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268		
Trench Pile	Trench Pile	8/1/01	ND	ND	ND	100	ND	230	ND	ND	ND	330	from Dewatering Trench excavated 7/30-7/31
Spoil Pile 1	MWH-0108-Spoil-Pile-001	8/9/01	ND	ND	ND	ND	ND	ND	120	ND	ND	120	material excavated 8/8-8/9 (from area designated as < 50mg/kg)
Spoil Pile 2	MWH-0108-Spoil-Pile-002	8/9/01	ND	ND	ND	ND	ND	ND	4,800	ND	ND	4,800	material from stockpile created during PGCS construction in 1997 (predicted to be >50mg/kg)
Spoil Pile 3	MWH-0108-Spoil-Pile-003	8/13/01	ND	ND	ND	ND	ND	400	ND	ND	ND	400	material excavated 8/10 (from area designated as < 50mg/kg)
Spoil Pile 4	MWH-0108-Spoil-Pile-004	8/13/01	ND	ND	ND	ND	ND	110	ND	ND	ND	110	material excavated 8/13 (from area designated as < 50mg/kg)
Spoil Pile 5	MWH-0108-Spoil-Pile-005	8/14/01	ND	ND	ND	ND	ND	380	270	ND	ND	650	material excavated 8/14 (from area designated as < 50mg/kg)
PGCS Pile 1	MWH-0108-PGCS-Pile-001	8/14/01	ND	ND	ND	ND	ND	550	140	ND	ND	690	composite sample from area underneath PGCS stockpile area
Spoil Pile 6	MWH-0108-Spoil-Pile-006	8/15/01	ND	ND	ND	ND	ND	210	140	ND	ND	350	material excavated 8/15 (from area designated as < 50mg/kg)
Spoil Pile 7	MWH-0108-Spoil-Pile-007	8/20/01	ND	ND	ND	660	ND	5,300	ND	ND	ND	5,960	material excavated 8/17 (from area designated as < 50mg/kg)
Spoil Pile 8	MWH-0108-Spoil-Pile-008	8/20/01	ND	ND	ND	ND	ND	ND	3,200	ND	ND	3,200	material excavated 8/20 (from area designated as > 50mg/kg)
Spoil Pile 9	MWH-0108-Spoil-Pile-009	8/21/01	ND	ND	ND	ND	ND	210	ND	ND	ND	210	material excavated 8/21 (from area designated as < 50mg/kg)
Spoil Pile 10	MWH-0108-Spoil-Pile-010	8/21/01	ND	ND	ND	360	ND	1,400	ND	ND	ND	1,760	material excavated 8/21 (from area designated as > 50mg/kg)
Spoil Pile 11	MWH-0108-Spoil-Pile-011	8/22/01	ND	ND	ND	350	ND	2,400	ND	ND	ND	2,750	material excavated 8/22 (from area designated as > 50mg/kg)
Spoil Pile 12	MWH-0108-Spoil-Pile-012	8/23/01	ND	ND	ND	ND	ND	310	190	ND	ND	500	directly from area being excavated 8/23 near Point 37 (from area designated as > 50mg/kg)
Spoil Pile 13	MWH-0108-Spoil-Pile-013	8/23/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	directly from area being excavated 8/23 near Point 37 (from area designated as > 50mg/kg)
Spoil Pile 14	MWH-0108-Spoil-Pile-014	8/23/01	ND	ND	ND	ND	ND	ND	740	ND	ND	740	material excavated 8/23 (from area designated as > 50mg/kg)
Spoil Pile 15	MWH-0108-Spoil-Pile-015	8/23/01	ND	ND	ND	ND	ND	1,900	1,200	ND	ND	3,100	material excavated 8/23 (from area designated as < 50mg/kg)
Spoil Pile 16	MWH-0108-Spoil-Pile-016	8/23/01	ND	ND	ND	ND	ND	240	ND	ND	ND	240	material excavated 8/23 (from area designated as > 50mg/kg)
Spoil Pile 17	MWH-0108-Spoil-Pile-017	9/6/01	ND	ND	ND	92	ND	330	ND	ND	ND	422	material excavated 9/6 (from areas 8, 28, 34, 35, and 37 which did not meet cleanup objective the first time)
Spoil Pile 18	MWH-0108-Spoil-Pile-018	9/27/01	ND	ND	ND	ND	ND	510	200	ND	ND	710	material excavated 9/25 (from areas 37 and 42 which did not meet cleanup objective the second time)

Notes:

Sample results were used for screening purposes only

ND = Not detected

All samples are composite samples

Table 5
Stockpile Characterization Results
Compuchem Laboratories
ACS NPL Site
Griffith, Indiana

Sample Identifier	Sample Identification	Date Sampled	PCB Concentrations (ug/kg)							Total PCBs (ug/kg)	Notes
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260		
Pile A1	MWH-Spoil-Pile-A001-001-SS	9/5/01	ND	ND	ND	ND	ND	830 P/	390 J/	1,220	stockpile of material excavated from areas designated as >50 mg/kg
Pile A2	MWH-Spoil-Pile-A002-001-SS	9/5/01	ND /UJ	ND /UJ	ND /UJ	ND /UJ	ND /UJ	660 /J	430 P/J	1,090	stockpile of material excavated from areas designated as >50 mg/kg
Pile A3	MWH-Spoil-Pile-A003-001-SS	9/5/01	ND	ND	ND	ND	1600	780	500 P/	2,880	stockpile of material excavated from areas designated as >50 mg/kg
Pile B1	MWH-Spoil-Pile-B001-001-SS	9/6/01	ND	ND	ND	ND	1900	1100	390 P/	3,390	stockpile of material excavated from areas designated as >50 mg/kg
Pile C1	MWH-Spoil-Pile-C001-001-SS	9/27/01	ND	ND	ND	ND	1700 P/	700 P/	ND	2,400	stockpile of material excavated from areas designated as >50 mg/kg

Notes:

ND = Not detected

All samples are composite samples

Suffix Definitions:

/ = Data qualifier added by laboratory

/_ = Data qualifier added by data validator

B = Compound is also detected in the blank

J = Result is detected below the reporting limit and is an estimated concentration

P = The Relative Percent Difference (RPD) between the two GC column values is greater than 40%. The higher value has been reported.

JB = Analyte is detected in the sample below the reporting limit and is an estimated concentration. The compound is also detected in the method blank resulting in a potential high bias.

UB = Analyte is not detected at or above the indicated concentration due to blank contamination.

UJ = Indicates the compound or analyte was analyzed for but not detected. The sample detection limit is an estimated value.

JP = Result is detected below the reporting limit and is an estimated concentration. Also, the Relative Percent Difference (RPD) between the two GC column values is greater than 40%. The higher value has been reported.

Table 6
Wipe Sample Results from Decontaminated HDPE Panels
Simalabs International
ACS NPL Site
Griffith, Indiana

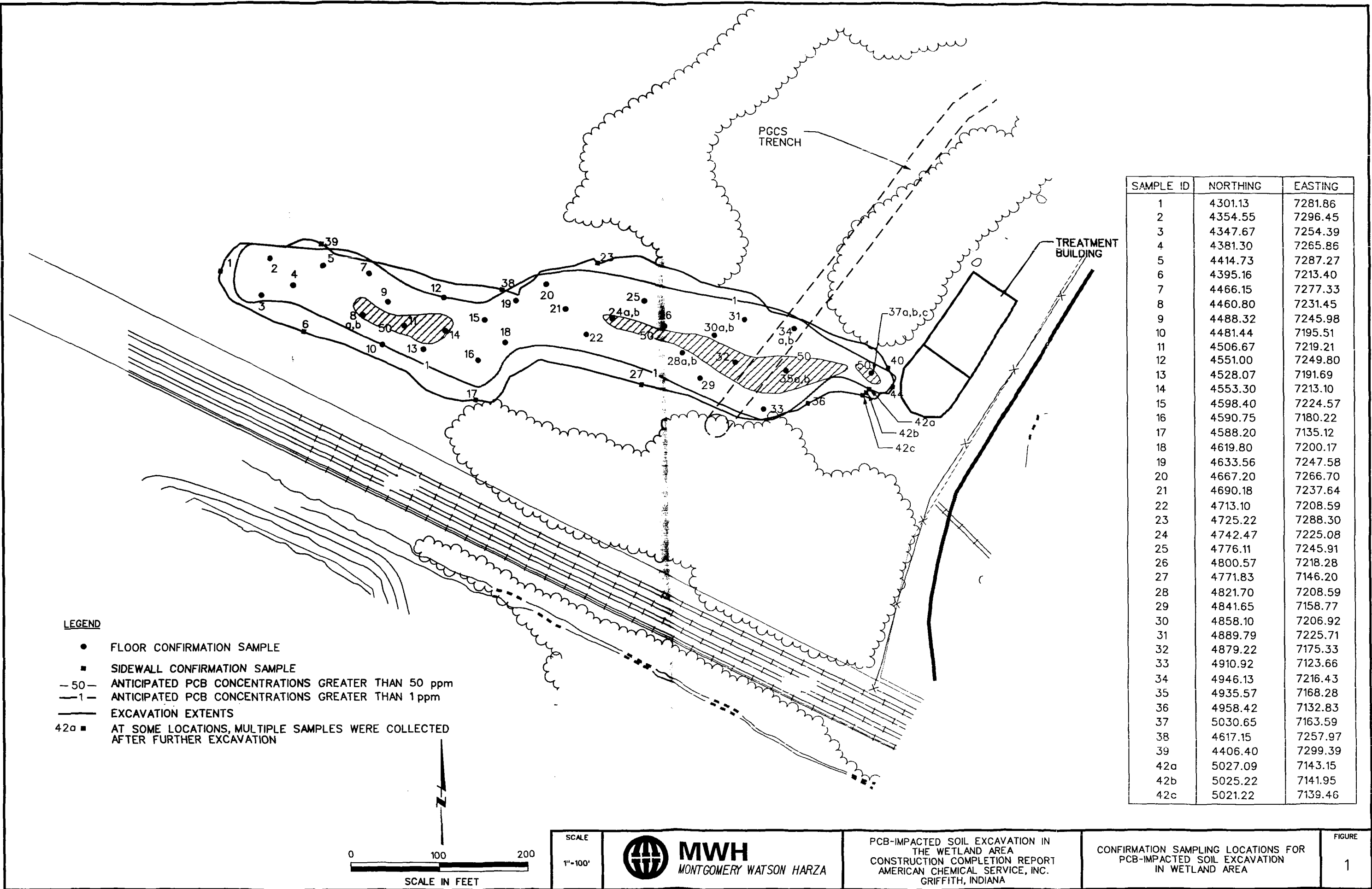
Sample Location	Sample Identification	Date Sampled	PCB Concentrations (ug/kg)									Total PCBs (ug/kg)
			Aroclor 1016	Aroclor 1221	Aroclor 1232	Aroclor 1242	Aroclor 1248	Aroclor 1254	Aroclor 1260	Aroclor 1262	Aroclor 1268	
Wipe 1	Wipe Sample 001	8/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wipe 2	Wipe Sample 002	8/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wipe 3	Wipe Sample 003	8/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wipe 4	Wipe Sample 004	8/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Wipe 5	Wipe Sample 005	8/27/01	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Notes:

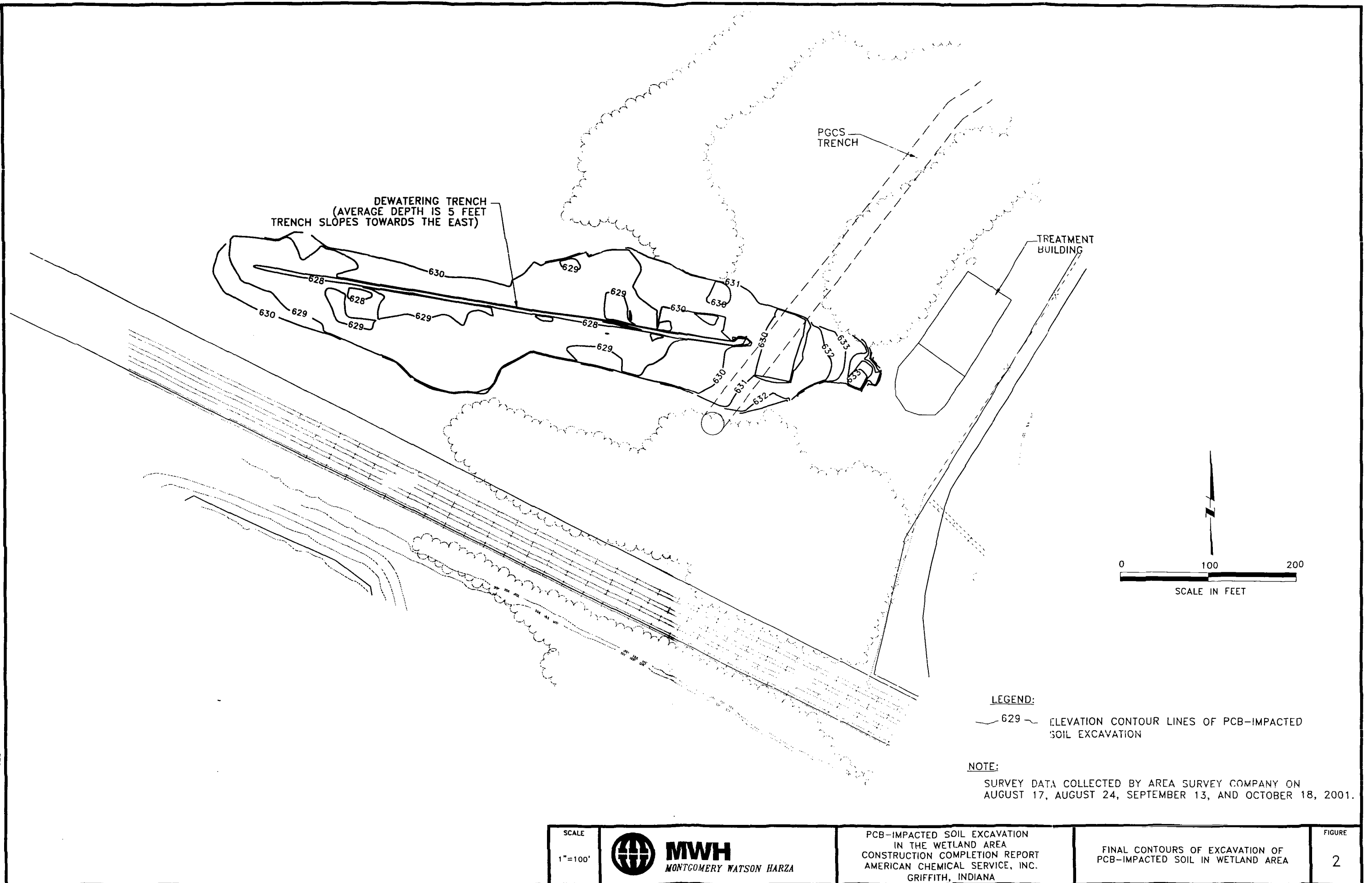
ND = Not detected

All samples are grab samples collected from the HDPE road panels after decontamination





JOB No. MW Job No. FILE: J:\2009\0601 acs\0108.../mwdrgs/FINAL DEPTHS.DWG



FINAL EXTENTS OF
WETLAND OPEN-WATER
POND

AREA BACKFILLED
TO ORIGINAL GRADE

PGCS
TRENCH

TREATMENT
BUILDING

0 100 200
SCALE IN FEET

NOTE:

SURVEY DATA COLLECTED BY MWH USING A GPS UNIT
ON MAY 22, 2002

SCALE
1"=100'



MWH
MONTGOMERY WATSON HARZA

PCB-IMPACTED SOIL EXCAVATION
IN THE WETLAND AREA
CONSTRUCTION COMPLETION REPORT
AMERICAN CHEMICAL SERVICE, INC.
GRIFFITH, INDIANA

FINAL EXTENTS OF WETLAND
OPEN-WATER POND

FIGURE

3

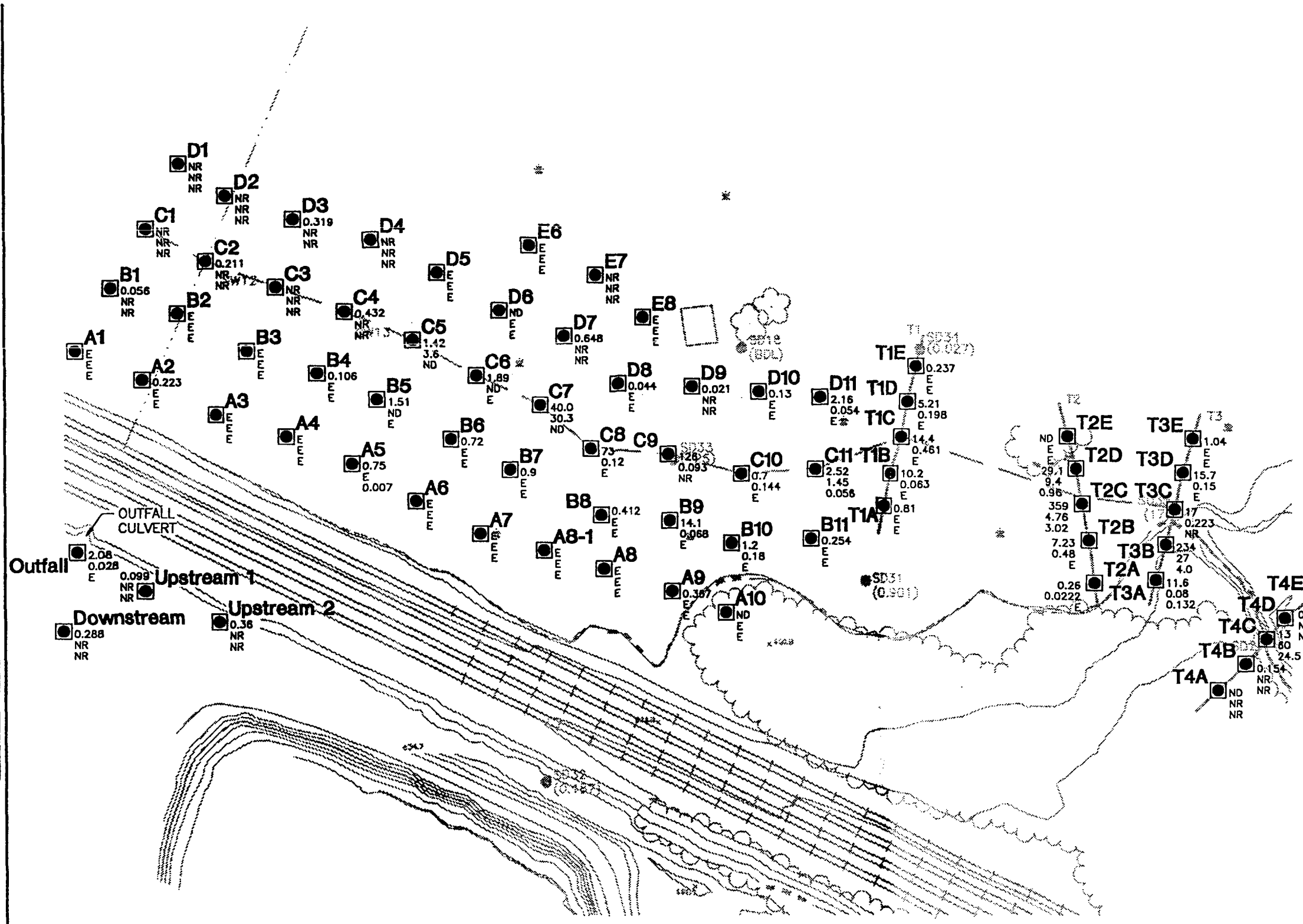


—

A



Management Review
Other
Technical Review
Project Manager
11-26-96
Graphic Standards CCM
Lead Professional
QUALITY CONTROL
This document has been developed for a specific application and may not be used without the written approval of Montgomery Watson.



- LEGEND**
- CHANNEL COURSE
 - SEDIMENT/SOIL SAMPLE LOCATION AND NUMBER, FROM PHASE I WETLAND INVESTIGATION
 - TOTAL PCB CONCENTRATION, in mg/kg FROM PHASE I WETLAND INVESTIGATION
 - WETLAND SAMPLE LOCATION AND NUMBER

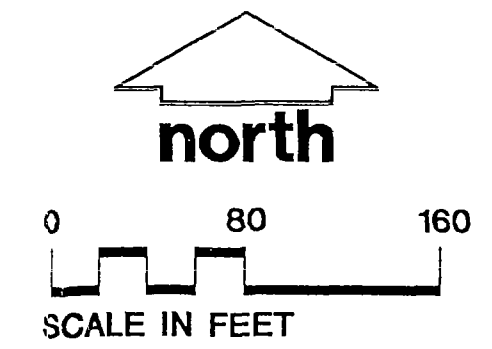
SUMMARY OF TOTAL PCB RESULTS

2.52 - 0.5 ft.
1.45 - 1.0 ft.
ND - 1.5 ft.

ALL RESULTS IN mg/kg (ppm)

ND NOT DETECTED (DETECTION LIMIT APPROXIMATELY 0.05 mg/kg)
E EXTRACTED, NOT ANALYZED
NR ANALYSIS NOT REQUESTED

- NOTES**
1. BASE MAP DEVELOPED FROM AN AERIAL SURVEY MAP OF THE SITE FLOWN ON MARCH 8, 1994 BY GEONEX CHICAGO AERIAL SURVEY, INC. CONTOUR INTERVAL IS TWO FEET.
 2. SEDIMENT SAMPLES COLLECTED BY MONTGOMERY WATSON FROM NOVEMBER 18 TO NOVEMBER 21, 1996.



WETLAND SEDIMENT SAMPLE LOCATIONS AND PCB CONCENTRATIONS

AMERICAN CHEMICAL SERVICE, INC.
NPL SITE
GRIFFITH, INDIANA

Developed By MWK
Approved By
Reference 4077.0090-B01
Revisions

Drawn By LCL
Date

Drawing Number
1252042
0809.0076 B1

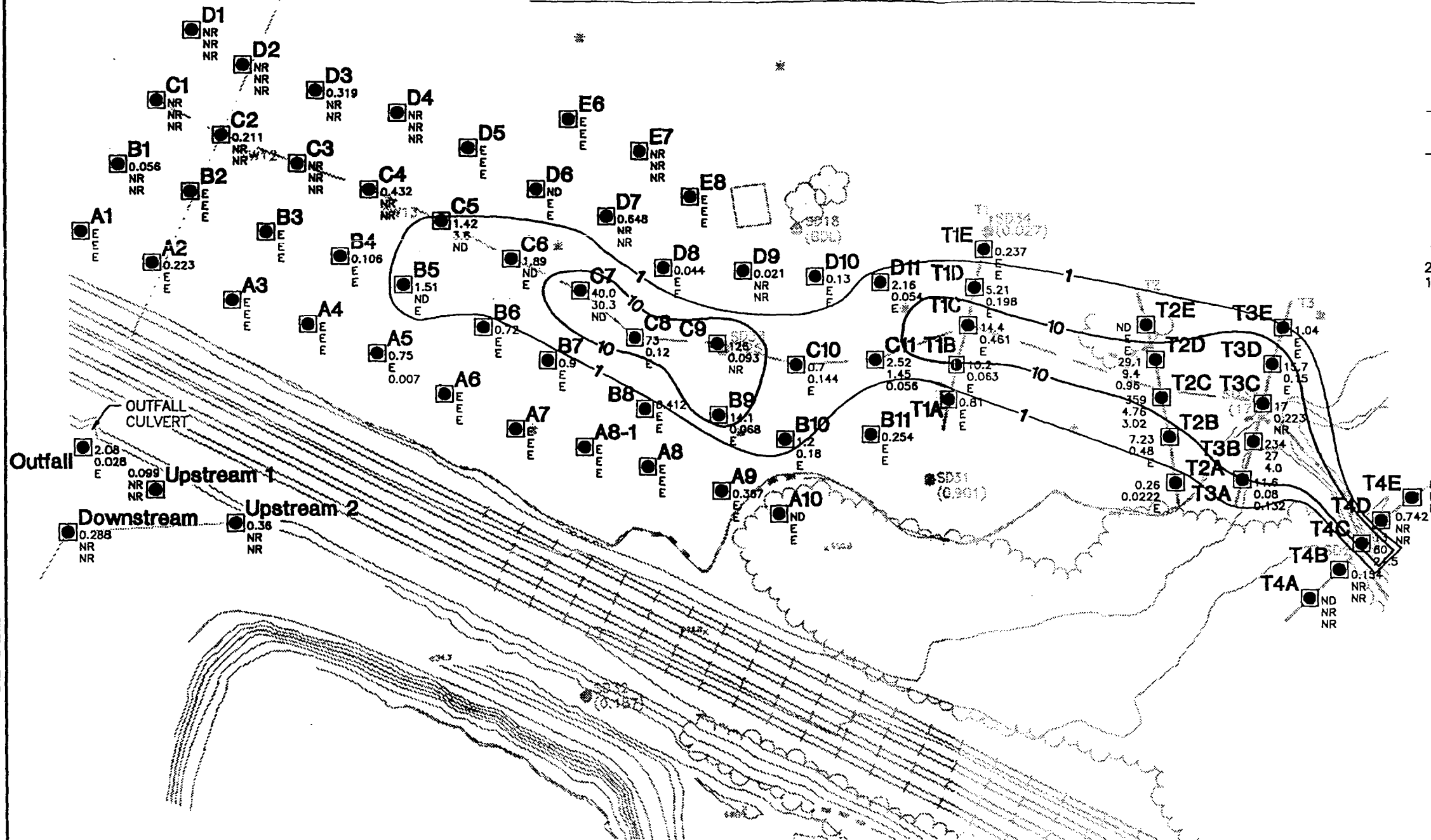
MONTGOMERY WATSON

FIGURE 1

APPENDIX A

**Summary Information from 1996 Phase II Wetland Investigation Technical
Memorandum**

PCBs IN SEDIMENTS 0-0.5 FEET DEEP



LEGEND

- CHANNEL COURSE
- SEDIMENT/SOIL SAMPLE LOCATION AND NUMBER, FROM PHASE I WETLAND INVESTIGATION
- TOTAL PCB CONCENTRATION, in mg/kg FROM PHASE I WETLAND INVESTIGATION
- A1 WETLAND SAMPLE LOCATION AND NUMBER
- 1 APPROXIMATE 1 mg/kg PCB ISOCONCENTRATION CONTOUR
- 10 APPROXIMATE 10 mg/kg PCB ISOCONCENTRATION CONTOUR

SUMMARY OF TOTAL PCB RESULTS

2.52 - 0.5 ft.
1.45 - 1.0 ft.
ND - 1.5 ft.

- ND NOT DETECTED (DETECTION LIMIT APPROXIMATELY 0.05 mg/kg)
- E EXTRACTED, NOT ANALYZED
- NR ANALYSIS NOT REQUESTED

NOTES

1. BASE MAP DEVELOPED FROM AN AERIAL SURVEY MAP OF THE SITE FLOWN ON MARCH 8, 1994 BY GEONEX CHICAGO AERIAL SURVEY, INC. CONTOUR INTERVAL IS TWO FEET.
2. SEDIMENT SAMPLES COLLECTED BY MONTGOMERY WATSON FROM NOVEMBER 18 TO NOVEMBER 21, 1996.
3. THE ISOCONCENTRATION CONTOURS WERE ESTIMATED MANUALLY USING THE ANALYTICAL DATA.



0 80 160
SCALE IN FEET

WETLAND SEDIMENT PCB ISOCONCENTRATION MAP (0-0.5 FT INTERVAL)

AMERICAN CHEMICAL SERVICE, INC.
NPL SITE
GRIFFITH, INDIANA

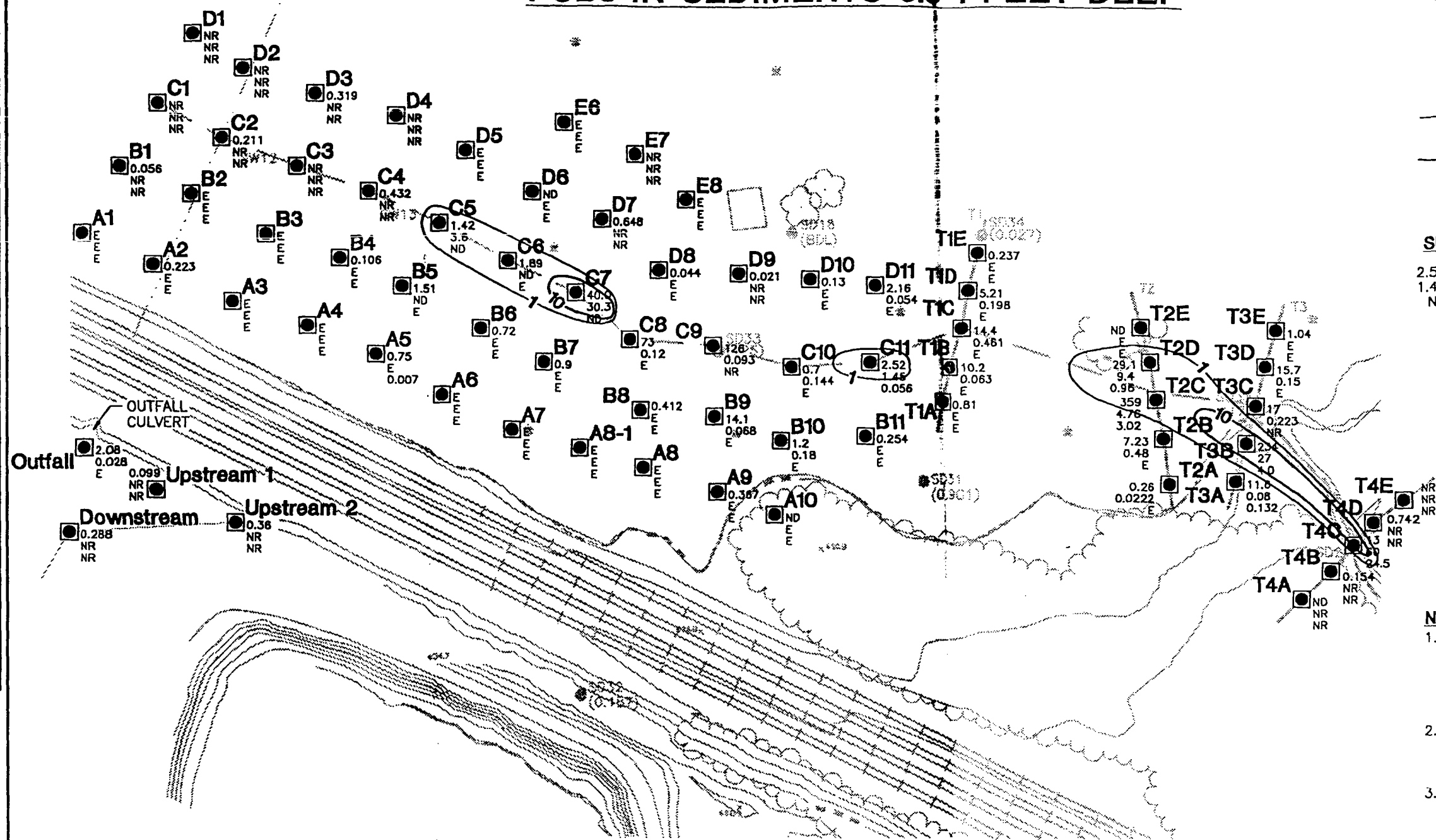
Drawing Number
1252042
0809.0076 B2
MONTGOMERY
WATSON



FIGURE 2

Management Review
Other
Technical Review
Project Manager
Graphic Standards CCM
11-26-96
Lead Professional
QUALITY CONTROL
This document has been developed for a specific application and may not be used without the written approval of Montgomery Watson.

PCBs IN SEDIMENTS 0.5-1 FEET DEEP



LEGEND

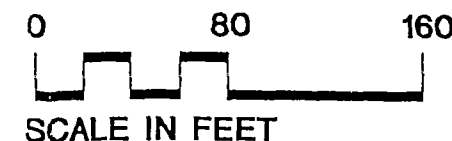
- CHANNEL COURSE
- SEDIMENT/SOIL SAMPLE LOCATION AND NUMBER, FROM PHASE I WETLAND INVESTIGATION
- TOTAL PCB CONCENTRATION, in mg/kg FROM PHASE I WETLAND INVESTIGATION
- A1 WETLAND SAMPLE LOCATION AND NUMBER
- 1 APPROXIMATE 1 mg/kg PCB ISOCONCENTRATION CONTOUR
- 10 APPROXIMATE 10 mg/kg PCB ISOCONCENTRATION CONTOUR

SUMMARY OF TOTAL PCB RESULTS

- 2.52 - 0.5 ft.
1.45 - 1.0 ft.
ND - 1.5 ft.
- ALL RESULTS IN mg/kg (ppm)
- ND NOT DETECTED (DETECTION LIMIT APPROXIMATELY 0.05 mg/kg)
E EXTRACTED, NOT ANALYZED
NR ANALYSIS NOT REQUESTED

NOTES

- BASE MAP DEVELOPED FROM AN AERIAL SURVEY MAP OF THE SITE FLOWN ON MARCH 8, 1994 BY GEONEX CHICAGO AERIAL SURVEY, INC. CONTOUR INTERVAL IS TWO FEET.
- SEDIMENT SAMPLES COLLECTED BY MONTGOMERY WATSON FROM NOVEMBER 18 TO NOVEMBER 21, 1996.
- THE ISOCONCENTRATION CONTOURS WERE ESTIMATED MANUALLY USING THE ANALYTICAL DATA.



WETLAND SEDIMENT PCB ISOCONCENTRATION MAP (0.5-1 FT INTERVAL)

AMERICAN CHEMICAL SERVICE, INC.
NPL SITE
GRIFFITH, INDIANA

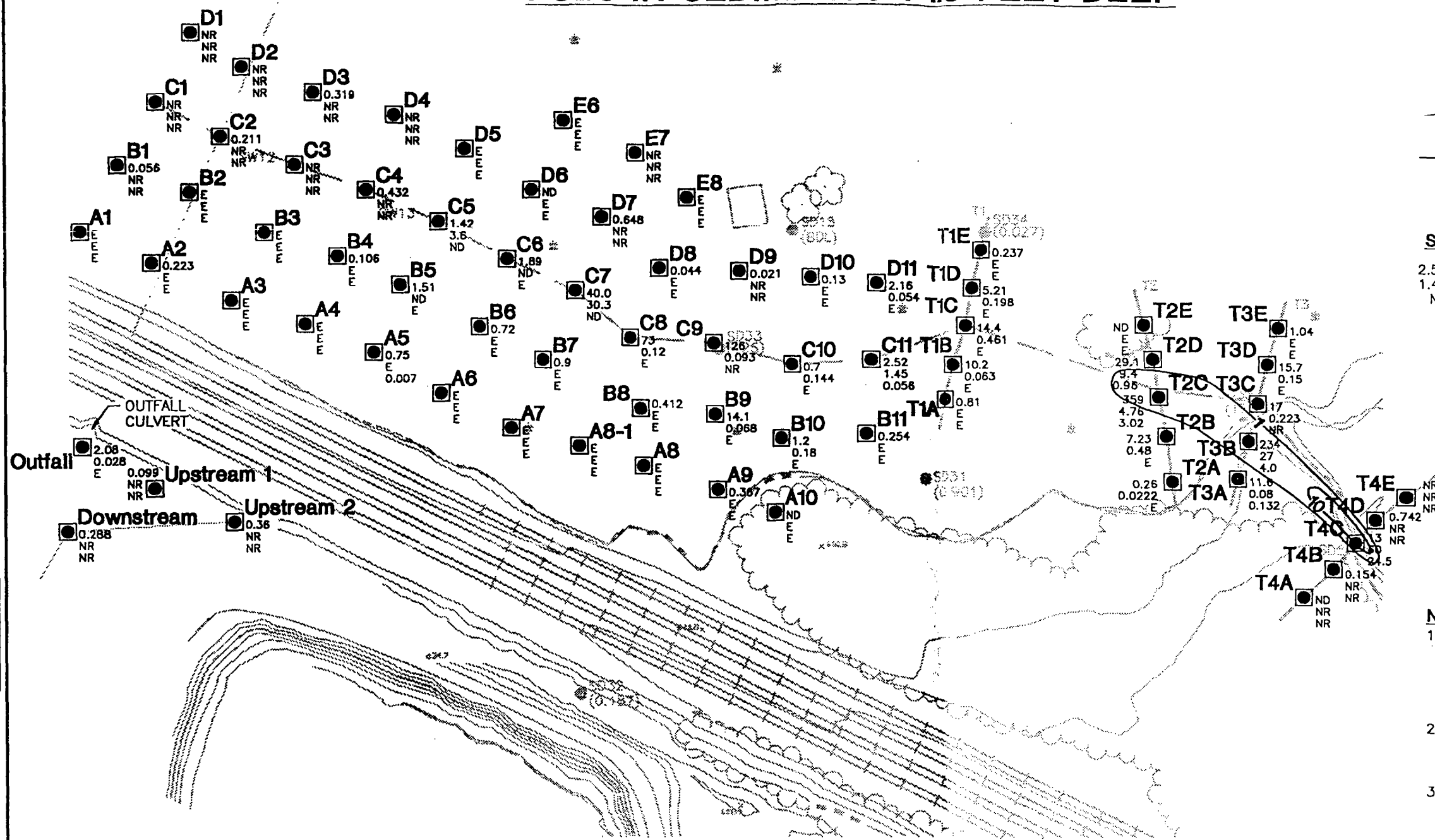
Drawing Number
1252042
0809.0076 B3

MONTGOMERY WATSON



FIGURE 3

PCBs IN SEDIMENTS 1-15 FEET DEEP



LEGEND

- CHANNEL COURSE
- SEDIMENT/SOIL SAMPLE LOCATION AND NUMBER, FROM PHASE I WETLAND INVESTIGATION
- TOTAL PCB CONCENTRATION, in mg/kg FROM PHASE I WETLAND INVESTIGATION
- WETLAND SAMPLE LOCATION AND NUMBER
- APPROXIMATE 1 mg/kg PCB ISOCONCENTRATION CONTOUR
- APPROXIMATE 10 mg/kg PCB ISOCONCENTRATION CONTOUR

SUMMARY OF TOTAL PCB RESULTS

- 2.52 - 0.5 ft.
1.45 - 1.0 ft.
ND - 1.5 ft.
- ALL RESULTS IN mg/kg (ppm)
- ND NOT DETECTED (DETECTION LIMIT APPROXIMATELY 0.05 mg/kg)
E EXTRACTED, NOT ANALYZED
NR ANALYSIS NOT REQUESTED

NOTES

- BASE MAP DEVELOPED FROM AN AERIAL SURVEY MAP OF THE SITE FLOWN ON MARCH 8, 1994 BY GEONEX CHICAGO AERIAL SURVEY, INC. CONTOUR INTERVAL IS TWO FEET.
- SEDIMENT SAMPLES COLLECTED BY MONTGOMERY WATSON FROM NOVEMBER 18 TO NOVEMBER 21, 1996.
- THE ISOCONCENTRATION CONTOURS WERE ESTIMATED MANUALLY USING THE ANALYTICAL DATA.



0 80 160
SCALE IN FEET

WETLAND SEDIMENT PCB ISOCONCENTRATION MAP (10-15 FT INTERVAL)

AMERICAN CHEMICAL SERVICE, INC.
NPL SITE
GRIFFITH, INDIANA

Drawing Number
1252042
0809.0076 B4
MONTGOMERY
WATSON

FIGURE 4

Table 1
November 1996 Wetlands Sample Location Coordinates
American Chemical Services Inc.
NPL Site
Griffith, Indiana

Sampling Point	East	North
A1	4128	7300
A2	4174	7279
A3	4226	7254
A4	4275	7238
A5	4320	7219
A6	4364	7192
A7	4410	7169
A8-1	4455	7157
A8	4497	7144
A9	4546	7128
A10	4584	7113
B1	4152	7344
B2	4199	7326
B3	4248	7299
B4	4296	7283
B5	4337	7264
B6	4389	7236
B7	4431	7214
B8	4495	7182
B9	4544	7178
B10	4588	7162
B11	4644	7165
C1	4177	7386
C2	4219	7363
C3	4268	7344
C4	4315	7327
C5	4362	7306
C6	4407	7281
C7	4452	7260
C8	4488	7229
C9	4543	7225
C10	4595	7211
C11	4647	7214

Sampling Point	East	North
D1	4200	7432
D2	4233	7409
D3	4280	7392
D4	4333	7377
D5	4379	7354
D6	4423	7327
D7	4469	7309
D8	4507	7275
D9	4560	7273
D10	4607	7269
D11	4650	7265
E6	4444	7373
E7	4491	7352
E8	4525	7322
T1 (A)	4696	7188
T1 (B)	4701	7211
T1 (C)	4709	7237
T1 (D)	4713	7262
T1 (E)	4719	7287
T2 (A)	4844	7134
T2 (B)	4840	7164
T2 (C)	4835	7190
T2 (D)	4831	7215
T2 (E)	4825	7238
T3 (A)	4887	7136
T3 (B)	4894	7161
T3 (C)	4900	7186
T3 (D)	4906	7212
T3 (E)	4913	7236
T4 (A)	4994	7126
T4 (B)	5013	7145
T4 (C)	5027	7162
T4 (D)	5040	7177
T4 (E)	5060	7192

APPENDIX B

Section 404 Permit Equivalency Letter from the U.S. Army Corps of Engineers



DEPARTMENT OF THE ARMY
DETROIT DISTRICT, CORPS OF ENGINEERS
BOX 1027
DETROIT, MICHIGAN 48231-1027

July 16, 1999

IN REPLY REFER TO

Construction-Operations Division
Regulatory Branch
File No. 99-145-028-0

Douglas A. Ehorn
Environmental Planning Team
101 Waukegan Road, Suite 960
Lake Bluff, Illinois 60044

Dear Mr. Ehorn:

We have reviewed the application for a Department of the Army permit that you recently submitted on behalf of American Chemical Services RD/RA Executive Committee. The application proposes to perform activities in isolated wetlands located at 420 South Colfax Avenue in Section 2, T35N, R9W, Lake County, in Griffith, Indiana.

We have determined that a Department of Army permit is not required for the work indicated on the enclosed plans. Activities undertaken entirely on a CERCLA site by authority of CERCLA as approved or required by U.S. Environmental Protection Agency, are exempt from permits under Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act.

To fully document your proposed activity, we have made your application and copies of the enclosed plans a part of our permanent records. Any construction activity other than shown on the plans may render this determination invalid.

The fact that a Corps permit is not required does not relieve you of the obligation to obtain required approvals from

other agencies that may have regulatory jurisdiction. If you have any questions regarding this matter, please contact Charlie Simon at the above address or telephone (313) 226-2221.

Sincerely,



John Konik
Chief, Permit Evaluation Section A
Regulatory Branch

Enclosures

Copy Furnished

Peter Vagt, Montgomery Watson
South Bend Field Office
IDEM, M. Maupin

APPENDIX C

A Chronological Summary of Construction Activities

A CHRONOLOGICAL SUMMARY OF CONSTRUCTION ACTIVITIES

This section describes the construction activities performed and equipment used during the completion of the tasks outlined in this construction completion report. Weekly construction progress meetings were held throughout the project.

Week of April 9, 2001

Coordinate locations for the extents of excavation were staked out using a GPS unit. MWH used the coordinates delineating the extent of impact reported in the *Technical Memorandum Phase II Wetland Investigation* (Montgomery Watson, February 1997).

Week of June 25, 2001

The GWTP discharge, which normally discharges into the wetland, was redirected south of railroad tracks to aid in dewatering efforts in the wetland area.

Week of July 23, 2001

Midwest Environmental, Inc. (MEI), an MWH subcontractor, mobilized their crew and equipment to the Site. The extents of the excavation area were further delineated using a GPS unit. A bulldozer operator knocked down cattails, shrubs, trees, and other vegetation in the excavation area.

A temporary road was constructed with HDPE panels down the middle of the length of the excavation area from east to west to provide access to the excavation area and minimize vehicular contact with potentially contaminated soil. The area west of the Fire Pond inside the ACS facility was graded to drain back into the Fire Pond. This regrading was done to prepare an area for stockpile of material removed from the wetland.

Week of July 30, 2001

MWH placed additional stakes in the excavation area. Stakes with green flags were used to designate areas containing impacted sediment with PCB concentrations greater than 1 mg/kg but less than 50 mg/kg according to the Work Plan. Stakes with pink flags were used to designate areas containing concentrations greater than 50 mg/kg.

An excavator arrived on Site and a five-foot deep trench was dug along the northside of the temporary road to collect water for dewatering. The removed material was transported by dump truck and staged in the area west of the Fire Pond. A composite screening sample was collected from the material pile.

Clay was imported to construct a berm around the area west of the Fire Pond. The purpose of the berm was to create stormwater protection for the PCB-impacted material stored next to the Fire Pond. A stormwater diversion system was constructed to capture stormwater runoff from the ACS facility, which normally drains into wetland. As a result, the newly constructed stormwater diversion system discharged the captured stormwater runoff south of railroad tracks.

MWH engineers collected spot elevations of the excavation area's existing ground surface prior to excavation activities for use later in making volume calculations of the removed soil.

Week of August 6, 2001

During the construction of the PGCS in 1997 a portion of the soil removed was from the wetland areas designated as PCB-impacted. In 1997, this material was segregated and stored on 6-mil poly liner immediately south of the excavation area. During the week of August 6, 2001, the stockpile of material was transported to the Fire Pond area.

Final clearing and grubbing of the excavation area was completed. An exclusion zone was established by running snow fence along the entrance of the temporary road.

Excavation of PCB-impacted soil commenced with areas delineated as having PCB concentrations less than 50 mg/kg. Excavated material was transported to the Fire Pond area. Confirmation sampling began in accordance with Agency-approved sampling plan (MWH August 2001).

Week of August 13, 2001

A bulldozer operator began to organize and manage separate piles of excavated soils in Fire Pond area. After the piles were sampled for PCB analysis and were found to be below the PCB disposal concentration screening criteria of 50 mg/kg, the material was placed into the Fire Pond and compacted.

Excavation and confirmation sampling continued. A composite sample was collected from the location where the PGCS pile of PCB-impacted material had been staged (see week of August 6, 2001) to confirm that no material remained with PCB concentrations above 1 mg/kg in the area where it had been stored.

The MWH subcontractor Area Survey Company began surveying the extents of the excavation. HDPE temporary road panels were removed so that the soil beneath the road could be excavated. The panels were removed in sequence, beginning at the western end of the road, and decontaminated.

Week of August 20, 2001

Excavation began in areas delineated as having soil PCB concentrations greater than 50 mg/kg. As such, this delineated material was placed on 6-mil poly plastic in Fire Pond area and separated from other excavated material. Excavation and confirmation sampling continued and temporary road panels were removed and decontaminated as excavation work progressed. A portion of the gravel road near the GWTP was temporarily removed and the impacted soil underneath was excavated.

The excavation was completed as originally delineated. Area Survey completed surveying the extents of excavation.

Week of August 27, 2001

Decontamination of panels continued. Wipe samples were collected from five representative panels after decontamination. Based on post-excavation confirmation sample analytical data returned from the laboratory, three areas did not meet the PCB cleanup objective. These areas were further excavated and resampled.

Week of September 3, 2001

MWH excavated further five additional areas that still contained soil with PCB concentrations above 1 mg/kg according to confirmation sample results. After additional excavation, the five areas were resampled.

The MEI bulldozer operator continued to shape, compact, and manage the stockpiled material that had been placed in and near the Fire Pond.

Wetland restoration was started in areas that met the cleanup objective. A bulldozer was used to shape and form the open-water pond.

Week of September 10, 2001

After additional excavation and confirmation sampling, two confirmation sample locations under the roadbed near the GWTP still did not meet the cleanup objective. It was determined that these two areas would be further excavated and resampled after the completion of the pond construction. Area Survey finished surveying locations that had been re-excavated to date.

Pond construction continued in areas that met the cleanup objective. Material excavated during pond construction was transported to the Off-Site Area and stockpiled for later use in the Off-Site Area. Silt fencing was installed by Security Fencing Company around the material stockpiled in the Off-Site Area.

Week of September 17, 2001

Additional material was removed from the wetland during the pond construction and stockpiled in the Off-Site Area.

Week of September 24, 2001

Construction of the open-water pond was finished and dewatering of the wetland was discontinued. MWH redirected the GWTP effluent to the wetland west of the treatment building. The pond was allowed to fill with water.

Additional material was removed from under the gravel roadbed in the areas of the two samples that did not meet the cleanup objective (see activity summary for the week of September 10, 2001). Final confirmation sampling occurred.

Week of October 14, 2001

Area Survey Company completed a survey of areas excavated and resampled since their last survey the week of September 10, 2001.

Week of November 1, 2001

Gravel removed from the roadbed during the excavation of PCB-impacted material was replaced. The area east of the pond was further shaped. With the wetland remediation completed, MEI decontaminated and demobilized their equipment.

TMK/RAA/SAE/PJV
J:\209\0601 ACS\0108 PCB Removal\6010108a008.doc

APPENDIX D

Photograph Log

Photograph Log



1. March 2001 (Looking West from on top of the Activated Sludge Plant of the Groundwater Treatment Plant):
A view of the wetlands area prior to mobilization.



2. July 2001 (Looking Northeast): After the cattails are knocked down, HDPE panels are transported by forklift
for the installation of the temporary access road prior to the PCB-impacted soils excavation.

Photograph Log



3. July 2001: A closeup view of the HDPE panels that make up the temporary access road.



4. July 2001 (Looking West): During the installation of the temporary access road, MWH engineers further delineate and demark the excavation extents with the use of a global positioning system (GPS) unit.

Photograph Log



5. August 2001 (Looking West): A drainage trench is dug to a depth of approximately 5 feet to aid in dewatering the wetlands area.



6. July 2001 (Looking South): A sump pump is installed at the east end of the drainage trench. Water is pumped to the Groundwater Treatment Plant for treatment prior to discharge south of the railroad tracks.

Photograph Log



7. August 2001 (Looking North): The excavator removes material, including soil and remaining vegetation, to a depth of at least 12 to 18 inches throughout the excavation area.



8. August 2001 (Looking South): The 35-foot reach of the excavator enables the majority of the excavation to be conducted from the temporary access road. All truck traffic remained on the access road.

Photograph Log



9. August 2001 (Looking North): Excavated material is direct-loaded into dump trucks.



10. August 2001 (Looking East): Dump trucks transport excavated material to the Fire Pond area.

Photograph Log



11. August 2001 (Looking West): A view of the wetlands area during the excavation of PCB-impacted soils. The access road panels were removed and the soil beneath was also excavated.



12. August 2001 (Looking Southeast): A grate marker enables MWH engineers to easily gauge excavation depth.

Photograph Log



13. August 2001 (Looking North): A portion of the gravel road bed is removed and later replaced near the Groundwater Treatment Plant to excavate the easternmost extents of the PCB-impacted soils.



14. August 2001 (Looking East): An MWH engineer uses a GPS unit to locate a post-excitation confirmation sampling location.

Photograph Log



15. August 2001: A wipe sample is collected from a decontaminated temporary access road panel.

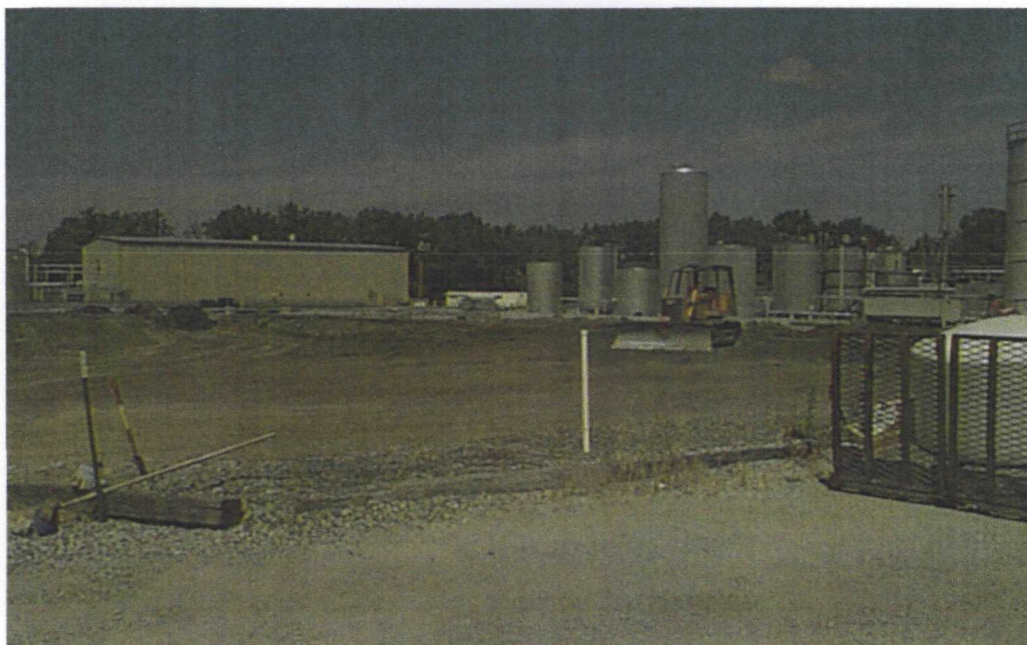


16. August 2001 (Looking Southwest): Material removed from excavated areas designated as containing PCB concentrations greater than 50 parts per million is segregated in the Fire Pond area and placed upon 6-mil poly plastic.

Photograph Log



17. April 2001 (Looking North): A view of the Fire Pond prior to filling it with material removed from the wetlands area.



18. August 2001 (Looking Northwest): A view of the Fire Pond after filling it with material removed from the wetlands area. A bulldozer is compacting and regrading the area.

Photograph Log



19. September 2001 (Looking South): After post-excavation sampling demonstrates the PCB cleanup objective has been met, the access road is reconstructed and an open-water pond is excavated with a depth of approximately one foot at the perimeter and nine feet at its deepest point.



20. September 2001 (Looking East): An excavator removes soil while a bulldozer shapes the contours of the open-water pond during pond construction.

Photograph Log



21. November 2001 (Looking West): A view of the wetlands area after the completion of the wetlands restoration and construction of an open-water pond.

APPENDIX E

Laboratory Analyses

**Confirmation Samples
(Compuchem)**

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108001001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 45 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/16/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----Aroclor-1016	59	U	
11104-28-2-----Aroclor-1221	77	U	
11141-16-5-----Aroclor-1232	59	U	
53469-21-9-----Aroclor-1242	41	U	W
12672-29-6-----Aroclor-1248	41	U	W
11097-69-1-----Aroclor-1254	54		
11096-82-5-----Aroclor-1260	59	U	W

K 10/22/01

ID
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108002001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-2

Sample wt/vol: 30.0 g/mL G

Lab File ID: _____

% Moisture: 21 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/16/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	41	U	
11104-28-2-----	Aroclor-1221	54	U	
11141-16-5-----	Aroclor-1232	41	U	
53469-21-9-----	Aroclor-1242	28	U	W
12672-29-6-----	Aroclor-1248	28	U	W
11097-69-1-----	Aroclor-1254	18	J	J
11096-82-5-----	Aroclor-1260	41	U	W

10/22/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108003001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 25 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/21/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	43	U
11104-28-2-----Aroclor-1221	57	U
11141-16-5-----Aroclor-1232	43	U
53469-21-9-----Aroclor-1242	30	U wJ
12672-29-6-----Aroclor-1248	30	U wJ
11097-69-1-----Aroclor-1254	8.7	J J
11096-82-5-----Aroclor-1260	43	U wJ

10/27/01

FORM I PEST

ID
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108004001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-2

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 21 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonoc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	41	U
11104-28-2-----Aroclor-1221	54	U
11141-16-5-----Aroclor-1232	41	U
53469-21-9-----Aroclor-1242	28	U
12672-29-6-----Aroclor-1248	28	U
11097-69-1-----Aroclor-1254	10	J
11096-82-5-----Aroclor-1260	41	U

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1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108005001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 25 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	43	U
11104-28-2-----Aroclor-1221	57	U
11141-16-5-----Aroclor-1232	43	U
53469-21-9-----Aroclor-1242	30	U <i>us</i>
12672-29-6-----Aroclor-1248	30	U
11097-69-1-----Aroclor-1254	30	U
11096-82-5-----Aroclor-1260	43	U ↓

FORM I PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108006001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 31 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonoc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	47	U
11104-28-2-----Aroclor-1221	62	U
11141-16-5-----Aroclor-1232	47	U
53469-21-9-----Aroclor-1242	33	U UJ
12672-29-6-----Aroclor-1248	33	U UJ
11097-69-1-----Aroclor-1254	150	J
11096-82-5-----Aroclor-1260	47	U UJ

FORM I PEST

10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108007001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-6

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 23 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	42	U
11104-28-2-----Aroclor-1221	55	U
11141-16-5-----Aroclor-1232	42	U
53469-21-9-----Aroclor-1242	29	U
12672-29-6-----Aroclor-1248	29	U
11097-69-1-----Aroclor-1254	29	U
11096-82-5-----Aroclor-1260	42	U

FORM I PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108008001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-3

Sample wt/vol: 30.0 g/mL G

Lab File ID: _____

% Moisture: 34 decanted: Y/N N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 µL

Date Analyzed: 08/31/01

Injection Volume: 2.0 µL

Dilution Factor: 50.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(µg/L or µg/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	2500	U
11104-28-2-----	Aroclor-1221	3200	U
11141-16-5-----	Aroclor-1232	2500	U
53469-21-9-----	Aroclor-1242	1700	U
12672-29-6-----	Aroclor-1248	1700	U
11097-69-1-----	Aroclor-1254	3400	
11096-82-5-----	Aroclor-1260	2500	U

10/22/01

#258 A

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: COMPUCHEM

Contract: PCB 8082

0108008002

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A2231

Matrix: (soil/water) SOIL

Lab Sample ID: A2231-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 19 decanted: (Y/N) N

Date Received: 09/07/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	40	U
11104-28-2-----Aroclor-1221	53	U
11141-16-5-----Aroclor-1232	40	U
53469-21-9-----Aroclor-1242	28	U
12672-29-6-----Aroclor-1248	28	U
11097-69-1-----Aroclor-1254	28	U
11096-82-5-----Aroclor-1260	40	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108009001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-8

Sample wt/vol: 30.0 g/mL G

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonoc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	41	U	
11104-28-2-----	Aroclor-1221	53	U	
11141-16-5-----	Aroclor-1232	41	U	
53469-21-9-----	Aroclor-1242	28	U	WJ
12672-29-6-----	Aroclor-1248	28	U	WJ
11097-69-1-----	Aroclor-1254	13	J	J
11096-82-5-----	Aroclor-1260	41	U	WJ

FORM 1 PEST

10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108010001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-9

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 18 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	40	U	
11104-28-2-----Aroclor-1221	52	U	
11141-16-5-----Aroclor-1232	40	U	
53469-21-9-----Aroclor-1242	27	U	uJ
12672-29-6-----Aroclor-1248	27	U	uJ
11097-69-1-----Aroclor-1254	4.9	J	J
11096-82-5-----Aroclor-1260	40	U	uJ

10/22/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108011001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-6

Sample wt/vol: 30.0 g/mL

Lab File ID: _____

% Moisture: 17 decanted: Y(N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONG

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	39	U
11104-28-2-----Aroclor-1221	51	U
11141-16-5-----Aroclor-1232	39	U
53469-21-9-----Aroclor-1242	27	U
12672-29-6-----Aroclor-1248	27	U
11097-69-1-----Aroclor-1254	59	
11096-82-5-----Aroclor-1260	39	U

Handwritten: 10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108012001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-10

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 30 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/24/01

Injection Volume: 2.0 (uL)

Dilution Factor: 2.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	93	U
11104-28-2-----Aroclor-1221	120	U
11141-16-5-----Aroclor-1232	93	U
53469-21-9-----Aroclor-1242	64	U
12672-29-6-----Aroclor-1248	64	U
11097-69-1-----Aroclor-1254	810	
11096-82-5-----Aroclor-1260	93	U

10/22/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108013001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-11

Sample wt/vol: 30.0 g/mL) G

Lab File ID: _____

% Moisture: 19 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	40	U	
11104-28-2-----	Aroclor-1221	52	U	
11141-16-5-----	Aroclor-1232	40	U	
53469-21-9-----	Aroclor-1242	28	U	WJ
12672-29-6-----	Aroclor-1248	28	U	WJ
11097-69-1-----	Aroclor-1254	3.5	J	J
11096-82-5-----	Aroclor-1260	40	U	WJ

FORM 1 PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108014001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 16 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	39	U
11104-28-2-----Aroclor-1221	50	U
11141-16-5-----Aroclor-1232	39	U
53469-21-9-----Aroclor-1242	27	U
12672-29-6-----Aroclor-1248	27	U
11097-69-1-----Aroclor-1254	13	J
11096-82-5-----Aroclor-1260	39	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108015001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-1

Sample wt/vol: 30.0 g/mL 3

Lab File ID: _____

% Moisture: 15 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 uL

Date Analyzed: 08/31/01

Injection Volume: 2.0 uL

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	38	U
11104-28-2-----Aroclor-1221	50	U
11141-16-5-----Aroclor-1232	38	U
53469-21-9-----Aroclor-1242	26	U
12672-29-6-----Aroclor-1248	26	U
11097-69-1-----Aroclor-1254	18	JP
11096-82-5-----Aroclor-1260	38	U

10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108016001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-13

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 08/14/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/23/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	38	U
11104-28-2-----Aroclor-1221	49	U
11141-16-5-----Aroclor-1232	38	U
53469-21-9-----Aroclor-1242	26	U
12672-29-6-----Aroclor-1248	26	U
11097-69-1-----Aroclor-1254	110	
11096-82-5-----Aroclor-1260	38	U

FORM I PEST

Handwritten: 10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108017001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-12

Sample wt/vol: 30.0 g/mL) G

Lab File ID: _____

% Moisture: 24 decanted: (Y/N) N

Date Received: 08/13/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/14/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/22/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	43	U	
11104-28-2-----Aroclor-1221	56	U	
11141-16-5-----Aroclor-1232	43	U	
53469-21-9-----Aroclor-1242	30	U	WJ
12672-29-6-----Aroclor-1248	30	U	WJ
11097-69-1-----Aroclor-1254	6.7	JP	J
11096-82-5-----Aroclor-1260	43	U	WJ

FORM I PEST

WJ
10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108018001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-14

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 17 decanted: (Y/N) N

Date Received: 08/14/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/23/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	39	U	
11104-28-2-----Aroclor-1221	51	U	
11141-16-5-----Aroclor-1232	39	U	
53469-21-9-----Aroclor-1242	27	U	
12672-29-6-----Aroclor-1248	27	U	
11097-69-1-----Aroclor-1254	14	J	J
11096-82-5-----Aroclor-1260	39	U	

FORM I PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108019001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-15

Sample wt/vol: 30.0 g/mL) G

Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N

Date Received: 08/14/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/23/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	37	U
11104-28-2-----Aroclor-1221	49	U
11141-16-5-----Aroclor-1232	37	U
53469-21-9-----Aroclor-1242	26	U
12672-29-6-----Aroclor-1248	26	U
11097-69-1-----Aroclor-1254	11	JP
11096-82-5-----Aroclor-1260	37	U

FORM I PEST

9/10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108021001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 27 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/28/01

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

PC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	220	U
11104-28-2-----Aroclor-1221	290	U
11141-16-5-----Aroclor-1232	220	U
53469-21-9-----Aroclor-1242	150	U
12672-29-6-----Aroclor-1248	150	U
11097-69-1-----Aroclor-1254	590	
11096-82-5-----Aroclor-1260	220	U

10/27/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108022001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-7

Sample wt/vol: 30.0 g/mL) G

Lab File ID: _____

% Moisture: 17 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 uL

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	39	U
11104-28-2-----Aroclor-1221	51	U
11141-16-5-----Aroclor-1232	39	U
53469-21-9-----Aroclor-1242	27	U
12672-29-6-----Aroclor-1248	27	U
11097-69-1-----Aroclor-1254	16	JP
11096-82-5-----Aroclor-1260	39	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108020001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-16

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 17 decanted: (Y/N) N

Date Received: 08/14/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/23/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	39	U
11104-28-2-----Aroclor-1221	51	U
11141-16-5-----Aroclor-1232	39	U
53469-21-9-----Aroclor-1242	27	U
12672-29-6-----Aroclor-1248	27	U
11097-69-1-----Aroclor-1254	27	U
11096-82-5-----Aroclor-1260	39	U

FORM I PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108023001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Q2231

Matrix: (soil/water) SOIL

Lab Sample ID: Q2231-17

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 10 decanted: (Y/N) N

Date Received: 08/14/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/23/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	36	U
11104-28-2-----	Aroclor-1221	47	U
11141-16-5-----	Aroclor-1232	36	U
53469-21-9-----	Aroclor-1242	25	U
12672-29-6-----	Aroclor-1248	25	U
11097-69-1-----	Aroclor-1254	25	U
11096-82-5-----	Aroclor-1260	36	U

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1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108024001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-8

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 19 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 100.0

PC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	4000	U
11104-28-2-----Aroclor-1221	5200	U
11141-16-5-----Aroclor-1232	4000	U
53469-21-9-----Aroclor-1242	2800	U
12672-29-6-----Aroclor-1248	2800	U
11097-69-1-----Aroclor-1254	6000	
11096-82-5-----Aroclor-1260	4000	U

Handwritten: 10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108024SS

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y2231

Matrix: (soil/water) SOIL

Lab Sample ID: Y2231-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 22 decanted: (Y/N) N

Date Received: 09/06/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	42	U
11104-28-2-----Aroclor-1221	54	U
11141-16-5-----Aroclor-1232	42	U
53469-21-9-----Aroclor-1242	29	U
12672-29-6-----Aroclor-1248	29	U
11097-69-1-----Aroclor-1254	29	U
11096-82-5-----Aroclor-1260	42	U

1-127/01
10

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108025001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-2

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 9 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/27/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	36	U
11104-28-2-----Aroclor-1221	46	U
11141-16-5-----Aroclor-1232	36	U
53469-21-9-----Aroclor-1242	25	U
12672-29-6-----Aroclor-1248	25	U
11097-69-1-----Aroclor-1254	330	
11096-82-5-----Aroclor-1260	36	U

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FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108026001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-9

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 50.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L or ug/Kg) UG/KG	Q
---------	----------	--	---

12674-11-2-----Aroclor-1016	1800	U
11104-28-2-----Aroclor-1221	2400	U
11141-16-5-----Aroclor-1232	1800	U
53469-21-9-----Aroclor-1242	1300	U
12672-29-6-----Aroclor-1248	1300	U
11097-69-1-----Aroclor-1254	480	JP
11096-82-5-----Aroclor-1260	1800	U

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10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108027001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 19 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/28/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	40	U
11104-28-2-----Aroclor-1221	52	U
11141-16-5-----Aroclor-1232	40	U
53469-21-9-----Aroclor-1242	28	U
12672-29-6-----Aroclor-1248	28	U
11097-69-1-----Aroclor-1254	40	P
11096-82-5-----Aroclor-1260	40	U

Handwritten signature and date: 10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108028001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 30 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	930	U
11104-28-2-----Aroclor-1221	1200	U
11141-16-5-----Aroclor-1232	930	U
53469-21-9-----Aroclor-1242	640	U
12672-29-6-----Aroclor-1248	640	U
11097-69-1-----Aroclor-1254	5800	
11096-82-5-----Aroclor-1260	4200	P

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1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108028002

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A2231

Matrix: (soil/water) SOIL

Lab Sample ID: A2231-2

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 09/07/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	38	U
11104-28-2-----Aroclor-1221	49	U
11141-16-5-----Aroclor-1232	38	U
53469-21-9-----Aroclor-1242	26	U
12672-29-6-----Aroclor-1248	26	U
11097-69-1-----Aroclor-1254	54	
11096-82-5-----Aroclor-1260	38	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108029001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-4

Sample wt/vol: 30.0 g/mL) G

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/28/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	41	U
11104-28-2-----Aroclor-1221	53	U
11141-16-5-----Aroclor-1232	41	U
53469-21-9-----Aroclor-1242	28	U
12672-29-6-----Aroclor-1248	28	U
11097-69-1-----Aroclor-1254	110	
11096-82-5-----Aroclor-1260	41	U

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10/27/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108030001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: T2231

Matrix: (soil/water) SOIL

Lab Sample ID: T2231-10

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 24 decanted: (Y/N) N

Date Received: 08/22/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/25/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 200.0

PC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----	Aroclor-1016	8600	U
11104-28-2-----	Aroclor-1221	11000	U
11141-16-5-----	Aroclor-1232	8600	U
53469-21-9-----	Aroclor-1242	5900	U
12672-29-6-----	Aroclor-1248	5900	U
11097-69-1-----	Aroclor-1254	29000	
11096-82-5-----	Aroclor-1260	8600	U

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10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108030SS

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y2231

Matrix: (soil/water) SOIL

Lab Sample ID: Y2231-6

Sample wt/vol: 30.0 g/mL G

Lab File ID: _____

% Moisture: 17 decanted: (Y/N) N

Date Received: 09/06/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	39	U
11104-28-2-----	Aroclor-1221	51	U
11141-16-5-----	Aroclor-1232	39	U
53469-21-9-----	Aroclor-1242	27	U
12672-29-6-----	Aroclor-1248	27	U
11097-69-1-----	Aroclor-1254	27	U
11096-82-5-----	Aroclor-1260	39	U

10/8/01

FORM 1 PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108031001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 22 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/28/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

PC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	42	U
11104-28-2-----Aroclor-1221	54	U
11141-16-5-----Aroclor-1232	42	U
53469-21-9-----Aroclor-1242	29	U
12672-29-6-----Aroclor-1248	29	U
11097-69-1-----Aroclor-1254	260	
11096-82-5-----Aroclor-1260	42	U

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10/22/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108032001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-2

Sample wt/vol: 30.0 g/mL) 3

Lab File ID: _____

% Moisture: 20 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SCNC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L or ug/Kg) UG/KG	Q
---------	----------	--	---

12674-11-2-----	Aroclor-1016	41	U
11104-28-2-----	Aroclor-1221	53	U
11141-16-5-----	Aroclor-1232	41	U
53469-21-9-----	Aroclor-1242	28	U
12672-29-6-----	Aroclor-1248	28	U
11097-69-1-----	Aroclor-1254	260	
11096-82-5-----	Aroclor-1260	180	P

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108033001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	38	U
11104-28-2-----Aroclor-1221	49	U
11141-16-5-----Aroclor-1232	38	U
53469-21-9-----Aroclor-1242	26	U
12672-29-6-----Aroclor-1248	26	U
11097-69-1-----Aroclor-1254	120	
11096-82-5-----Aroclor-1260	69	

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108034001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-4

Sample wt/vol: 30.0 g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	380	U
11104-28-2-----Aroclor-1221	490	U
11141-16-5-----Aroclor-1232	380	U
53469-21-9-----Aroclor-1242	260	U
12672-29-6-----Aroclor-1248	260	U
11097-69-1-----Aroclor-1254	1400	
11096-82-5-----Aroclor-1260	980	

10/2/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108034002

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A2231

Matrix: (soil/water) SOIL

Lab Sample ID: A2231-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N

Date Received: 09/07/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	37	U
11104-28-2-----Aroclor-1221	48	U
11141-16-5-----Aroclor-1232	37	U
53469-21-9-----Aroclor-1242	26	U
12672-29-6-----Aroclor-1248	26	U
11097-69-1-----Aroclor-1254	26	U
11096-82-5-----Aroclor-1260	37	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108035002

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A2231

Matrix: (soil/water) SOIL

Lab Sample ID: A2231-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N

Date Received: 09/07/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	37	U
11104-28-2-----Aroclor-1221	48	U
11141-16-5-----Aroclor-1232	37	U
53469-21-9-----Aroclor-1242	25	U
12672-29-6-----Aroclor-1248	25	U
11097-69-1-----Aroclor-1254	25	U
11096-82-5-----Aroclor-1260	37	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108035001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 11 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	360	U
11104-28-2-----Aroclor-1221	480	U
11141-16-5-----Aroclor-1232	360	U
53469-21-9-----Aroclor-1242	250	U
12672-29-6-----Aroclor-1248	250	U
11097-69-1-----Aroclor-1254	1500	
11096-82-5-----Aroclor-1260	590	P

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108036001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-6

Sample wt/vol: 30.0 (g/mL) 3

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	35	U
11104-28-2-----Aroclor-1221	46	U
11141-16-5-----Aroclor-1232	35	U
53469-21-9-----Aroclor-1242	24	U
12672-29-6-----Aroclor-1248	24	U
11097-69-1-----Aroclor-1254	64	
11096-82-5-----Aroclor-1260	17	J

FORM 1 REPT

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108037001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-7

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

Moisture: 16 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	390	U
11104-28-2-----Aroclor-1221	500	U
11141-16-5-----Aroclor-1232	390	U
53469-21-9-----Aroclor-1242	270	U
12672-29-6-----Aroclor-1248	270	U
11097-69-1-----Aroclor-1254	2400	
11096-82-5-----Aroclor-1260	2400	

FORM I PEST

Handwritten: 10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108037002

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A2231

Matrix: (soil/water) SOIL

Lab Sample ID: A2231-5

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 8 decanted: (Y/N) N

Date Received: 09/07/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPCUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	350	U
11104-28-2-----Aroclor-1221	460	U
11141-16-5-----Aroclor-1232	350	U
53469-21-9-----Aroclor-1242	240	U
12672-29-6-----Aroclor-1248	1800	
11097-69-1-----Aroclor-1254	1100	P
11096-82-5-----Aroclor-1260	600	P

J
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10/22/01

B

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108037003

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: B2231

Matrix: (soil/water) SOIL

Lab Sample ID: B2231-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 10 decanted: (Y/N) N

Date Received: 09/28/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/29/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 10/02/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	36	U
11104-28-2-----Aroclor-1221	47	U
11141-16-5-----Aroclor-1232	36	U
53469-21-9-----Aroclor-1242	25	U
12672-29-6-----Aroclor-1248	35	
11097-69-1-----Aroclor-1254	24	J
11096-82-5-----Aroclor-1260	36	U

FORM I PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108038001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-6

Sample wt/vol: 30.0 (g/mL) 3

Lab File ID: _____

% Moisture: 21 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/28/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	41	U
11104-28-2-----Aroclor-1221	54	U
11141-16-5-----Aroclor-1232	41	U
53469-21-9-----Aroclor-1242	28	U
12672-29-6-----Aroclor-1248	28	U
11097-69-1-----Aroclor-1254	74	
11096-82-5-----Aroclor-1260	41	U

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108039001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: S2231

Matrix: (soil/water) SOIL

Lab Sample ID: S2231-7

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

* Moisture: 20 decanted: (Y/N) N

Date Received: 08/16/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/21/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/28/01

Injection Volume: 2.0 (uL)

Dilution Factor: 2.0

PC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	81	U
11104-28-2-----Aroclor-1221	110	U
11141-16-5-----Aroclor-1232	81	U
53469-21-9-----Aroclor-1242	56	U
12672-29-6-----Aroclor-1248	56	U
11097-69-1-----Aroclor-1254	240	
11096-82-5-----Aroclor-1260	81	U

FORM I PEST

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108040001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-8

Sample wt/vol: 30.0 g/mL G

Lab File ID: _____

% Moisture: 6 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	170	U
11104-28-2-----Aroclor-1221	230	U
11141-16-5-----Aroclor-1232	170	U
53469-21-9-----Aroclor-1242	120	U
12672-29-6-----Aroclor-1248	120	U
11097-69-1-----Aroclor-1254	540	
11096-82-5-----Aroclor-1260	320	

10/22/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108041001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-9

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

Moisture: 8 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 08/31/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----	Aroclor-1016	35	U
11104-28-2-----	Aroclor-1221	46	U
11141-16-5-----	Aroclor-1232	35	U
53469-21-9-----	Aroclor-1242	24	U
12672-29-6-----	Aroclor-1248	24	U
11097-69-1-----	Aroclor-1254	120	
11096-82-5-----	Aroclor-1260	82	P

10/27/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108042001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: X2231

Matrix: (soil/water) SOIL

Lab Sample ID: X2231-10

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 14 decanted: (Y/N) N

Date Received: 08/24/01

Extraction: (SepF/Cont/Son) SONC

Date Extracted: 08/27/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/01/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	380	U
11104-28-2-----Aroclor-1221	490	U
11141-16-5-----Aroclor-1232	380	U
53469-21-9-----Aroclor-1242	260	U
12672-29-6-----Aroclor-1248	260	U
11097-69-1-----Aroclor-1254	3200	
11096-82-5-----Aroclor-1260	2000	

10/22/01

FORM 1 PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108042SS

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y2231

Matrix: (soil/water) SOIL

Lab Sample ID: Y2231-7

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 19 decanted: (Y/N) N

Date Received: 09/06/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----Aroclor-1016	200	U
11104-28-2-----Aroclor-1221	260	U
11141-16-5-----Aroclor-1232	200	U
53469-21-9-----Aroclor-1242	140	U
12672-29-6-----Aroclor-1248	920	
11097-69-1-----Aroclor-1254	770	
11096-82-5-----Aroclor-1260	510	

10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

0108042003

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: B2231

Matrix: (soil/water) SOIL

Lab Sample ID: B2231-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 7 decanted: (Y/N) N

Date Received: 09/28/01

Extraction: (SepF/Cont/Son) SONG

Date Extracted: 09/29/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 10/02/01

Injection Volume: 2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----	Aroclor-1016	35	U
11104-28-2-----	Aroclor-1221	46	U
11141-16-5-----	Aroclor-1232	35	U
53469-21-9-----	Aroclor-1242	24	U
12672-29-6-----	Aroclor-1248	16	JP
11097-69-1-----	Aroclor-1254	6.9	J
11096-82-5-----	Aroclor-1260	35	U

FORM I PEST

9/10/28/01

**Stockpile Sample Results
(Compuchem)**

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A001001SS

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y2231

Matrix: (soil/water) SOIL

Lab Sample ID: Y2231-1

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 23 decanted: (Y/N) N

Date Received: 09/06/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 20.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	840	U
11104-28-2-----Aroclor-1221	1100	U
11141-16-5-----Aroclor-1232	840	U
53469-21-9-----Aroclor-1242	580	U
12672-29-6-----Aroclor-1248	580	U
11097-69-1-----Aroclor-1254	830	P
11096-82-5-----Aroclor-1260	390	J

Handwritten: 10/02/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A002001SS

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y2231

Matrix: (soil/water) SOIL

Lab Sample ID: Y2231-3

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 24 decanted: (Y/N) N

Date Received: 09/06/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/11/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	430	U	W
11104-28-2-----Aroclor-1221	560	U	↓
11141-16-5-----Aroclor-1232	430	U	↓
53469-21-9-----Aroclor-1242	300	U	↓
12672-29-6-----Aroclor-1248	300	U	↓
11097-69-1-----Aroclor-1254	660		↓
11096-82-5-----Aroclor-1260	430	P	J

10/22/01

FORM I PEST

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

A003001SS

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: Y2231

Matrix: (soil/water) SOIL

Lab Sample ID: Y2231-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 22 decanted: (Y/N) N

Date Received: 09/06/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.

COMPOUND

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

Q

12674-11-2-----Aroclor-1016	210	U
11104-28-2-----Aroclor-1221	270	U
11141-16-5-----Aroclor-1232	210	U
53469-21-9-----Aroclor-1242	140	U
12672-29-6-----Aroclor-1248	1600	
11097-69-1-----Aroclor-1254	780	
11096-82-5-----Aroclor-1260	500	P

Handwritten: 10/22/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SPOILPILEB001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: A2231

Matrix: (soil/water) SOIL

Lab Sample ID: A2231-7

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 13 decanted: (Y/N) N

Date Received: 09/07/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/07/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 09/12/01

Injection Volume: 2.0 (uL)

Dilution Factor: 10.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) N

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG Q

12674-11-2-----	Aroclor-1016	370	U
11104-28-2-----	Aroclor-1221	490	U
11141-16-5-----	Aroclor-1232	370	U
53469-21-9-----	Aroclor-1242	260	U
12672-29-6-----	Aroclor-1248	1900	_____
11097-69-1-----	Aroclor-1254	1100	_____
11096-82-5-----	Aroclor-1260	390	P

Handwritten: 10/27/01

1D
GC EXTRACTABLE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

SOILPILEC001

Lab Name: COMPUCHEM

Contract: PCB 8082

Lab Code: LIBRTY

Case No.:

SAS No.:

SDG No.: B2231

Matrix: (soil/water) SOIL

Lab Sample ID: B2231-4

Sample wt/vol: 30.0 (g/mL) G

Lab File ID: _____

% Moisture: 12 decanted: (Y/N) N

Date Received: 09/28/01

Extraction: (SepF/Cont/Sonc) SONC

Date Extracted: 09/29/01

Concentrated Extract Volume: 5000 (uL)

Date Analyzed: 10/03/01

Injection Volume: 2.0 (uL)

Dilution Factor: 5.0

GPC Cleanup: (Y/N) N

pH: _____

Sulfur Cleanup: (Y/N) Y

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
---------	----------	---	---

12674-11-2-----	Aroclor-1016	180	U
11104-28-2-----	Aroclor-1221	240	U
11141-16-5-----	Aroclor-1232	180	U
53469-21-9-----	Aroclor-1242	130	U
12672-29-6-----	Aroclor-1248	1700	P
11097-69-1-----	Aroclor-1254	700	P
11096-82-5-----	Aroclor-1260	180	U

9-10/27/01

**Wipe Sample Results
(Simalabs)**

[REDACTED]

I N T E R N A T I O N A L

ANALYTICAL RESULTS

Date: Wednesday, August 29, 2001

Client:	Montgomery Watson	Client Project:	ACS - Griffith / Panels
Client Sample ID:	MWH-001	Work Order:	ME0108393
Sample Description:	Wipe Sample 001	SIMALABS ID:	ME0108393-01A
Sample Matrix:	Wipe		
Collection Date:	08/27/01		
Date Received:	08/27/01		

Analyses	Samp Type	Result	Reporting Limit	Qual	Units	DF	Date Analyzed
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PCB'S

Method: SW8082

Prep Date: 08/27/2001 Analyst: AS

Aroclor 1016	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1221	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1232	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1242	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1248	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1254	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1260	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1262	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1268	A	ND	2.5		µg/Area	1	08/27/01
Surr: Decachlorobiphenyl	S	560	50-150	S	%REC	1	08/27/01
Surr: Tetrachloro-m-xylene	S	85.0	50-150		%REC	1	08/27/01

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard
T - Tentatively Identified Compound (TIC)

DF - Dilution Factor

Qual: ND - Not Detected at the Reporting Limit
B - Detected in the associated Method Blank
* - Exceeds Maximum Contaminant Level

S - Spike recovery outside recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range
I - Matrix Interference

H - Analyte was prepared and/or analyzed outside of the analytical method holding time

1 of 5

[REDACTED]

I N T E R N A T I O N A L

ANALYTICAL RESULTS

Date: Wednesday, August 29, 2001

Client:	Montgomery Watson	Client Project:	ACS - Griffith / Panels
Client Sample ID:	MWH-002	Work Order:	ME0108393
Sample Description:	Wipe Sample 002	SIMALABS ID:	ME0108393-02A
Sample Matrix:	Wipe		
Collection Date:	08/27/01		
Date Received:	08/27/01		

Analyses	Samp Type	Result	Reporting Limit	Qual	Units	DF	Date Analyzed
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PCB'S

Method: SW8082

Prep Date: 08/27/2001

Analyst: AS

Aroclor 1016	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1221	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1232	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1242	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1248	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1254	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1260	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1262	A	ND	2.5		µg/Area	1	08/27/01
Aroclor 1268	A	ND	2.5		µg/Area	1	08/27/01
Surr: Decachlorobiphenyl	S	205	50-150	S	%REC	1	08/27/01
Surr: Tetrachloro-m-xylene	S	95.0	50-150		%REC	1	08/27/01

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard
T - Tentatively Identified Compound (TIC)

DF - Dilution Factor

Qual: ND - Not Detected at the Reporting Limit
B - Detected in the associated Method Blank
* - Exceeds Maximum Contaminant Level

S - Spike recovery outside recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

I - Matrix Interference

H - Analyte was prepared and/or analyzed outside of the analytical method holding time

2 of 5

[REDACTED]

I N T E R N A T I O N A L

ANALYTICAL RESULTS

Date: Wednesday, August 29, 2001

Client:	Montgomery Watson	Client Project:	ACS - Griffith / Panels
Client Sample ID:	MWH-003	Work Order:	ME0108393
Sample Description:	Wipe Sample 003	SIMALABS ID:	ME0108393-03A
Sample Matrix:	Wipe		
Collection Date:	08/27/01		
Date Received:	08/27/01		

Analyses	Samp Type	Result	Reporting Limit	Qual	Units	DF	Date Analyzed
PCB'S							
		Method: SW8082		Prep Date: 08/27/2001		Analyst: AS	
Aroclor 1016	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1221	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1232	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1242	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1248	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1254	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1260	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1262	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1268	A	ND	2.5		µg/Area	1	08/28/01
Surr: Decachlorobiphenyl	S	85.0	50-150		%REC	1	08/28/01
Surr: Tetrachloro-m-xylene	S	85.0	50-150		%REC	1	08/28/01

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard
T - Tentatively Identified Compound (TIC)

DF - Dilution Factor

Qual: ND - Not Detected at the Reporting Limit
B - Detected in the associated Method Blank
* - Exceeds Maximum Contaminant Level

S - Spike recovery outside recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

I - Matrix Interference

H - Analyte was prepared and/or analyzed outside of the analytical method holding time

3 of 5

[REDACTED]

I N T E R N A T I O N A L

ANALYTICAL RESULTS

Date: *Wednesday, August 29, 2001*

Client:	Montgomery Watson	Client Project:	ACS - Griffith / Panels
Client Sample ID:	MWH-004	Work Order:	ME0108393
Sample Description:	Wipe Sample 004	SIMALABS ID:	ME0108393-04A
Sample Matrix:	Wipe		
Collection Date:	08/27/01		
Date Received:	08/27/01		

Analyses	Samp Type	Result	Reporting Limit	Qual	Units	DF	Date Analyzed
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PCB'S

Method: **SW8082**

Prep Date: **08/27/2001** Analyst: **AS**

Aroclor 1016	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1221	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1232	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1242	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1248	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1254	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1260	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1262	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1268	A	ND	2.5		µg/Area	1	08/28/01
Surr: Decachlorobiphenyl	S	110	50-150		%REC	1	08/28/01
Surr: Tetrachloro-m-xylene	S	100	50-150		%REC	1	08/28/01

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard
T - Tentatively Identified Compound (TIC)

DF - Dilution Factor

Qual: ND - Not Detected at the Reporting Limit
B - Detected in the associated Method Blank
* - Exceeds Maximum Contaminant Level

S - Spike recovery outside recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range

I - Matrix Interference

H - Analyte was prepared and/or analyzed outside of the analytical method holding time

4 of 5

INTERNATIONAL

ANALYTICAL RESULTS

Date: Wednesday, August 29, 2001

Client:	Montgomery Watson	Client Project:	ACS - Griffith / Panels
		Work Order:	ME0108393
Client Sample ID:	MWH-005	SIMALABS ID:	ME0108393-05A
Sample Description:	Wipe Sample 005		
Sample Matrix:	Wipe		
Collection Date:	08/27/01		
Date Received:	08/27/01		

Analyses	Samp Type	Result	Reporting Limit	Qual	Units	DF	Date Analyzed
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PCB'S

Method: SW8082

Prep Date: 08/27/2001 Analyst: AS

Aroclor 1016	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1221	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1232	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1242	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1248	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1254	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1260	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1262	A	ND	2.5		µg/Area	1	08/28/01
Aroclor 1268	A	ND	2.5		µg/Area	1	08/28/01
Surr: Decachlorobiphenyl	S	110	50-150		%REC	1	08/28/01
Surr: Tetrachloro-m-xylene	S	110	50-150		%REC	1	08/28/01

Samp Type: A - Analyte, S - Surrogate, I - Internal Standard
T - Tentatively Identified Compound (TIC)

DF - Dilution Factor

Qual: ND - Not Detected at the Reporting Limit
B - Detected in the associated Method Blank
* - Exceeds Maximum Contaminant Level

S - Spike recovery outside recovery limits
SD - Value diluted out
R - RPD outside accepted recovery limits
E - Value above quantitation range
I - Matrix Interference

H - Analyte was prepared and/or analyzed outside of the analytical method holding time

5 of 5

APPENDIX F

Revision to Wetland Restoration Program Letter from MWH



MWH

MONTGOMERY WATSON HARZA

August 21, 2001

Kevin Adler, Mail Code SR-J6
Remedial Project Manager
Region V
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, IL 60604-3590

Sean Grady
Project Manager
Office of Environmental Response
Indiana Dept of Environmental Management
100 North Senate Ave
Indianapolis, IN 46204

Re: Revision to Wetland Restoration Program
ACS NPL Site RD/RA

Dear Kevin and Sean:

The U.S. EPA-selected final remedy for the ACS Site includes the excavation and removal of PCB-impacted sediments in the wetland area west of the Site. The approved April 1999 "*PCB-Impacted Soils Excavation Work Plan*" outlines the excavation and removal procedure. A Site Restoration Plan was included in the *Water Quality Certification Request*, submitted to the Indiana Department of Environmental Management on May 27, 1999.

The approved remedial plan called for the excavation and removal of between 6 and 18 inches of PCB-impacted sediment across a one-acre area in the wetland west of the ACS facility. The Restoration Plan proposes to put surface soils back in place after the excavation to encourage the return of volunteer plants across the remediated area.

A consensus has reportedly developed over the past two years among the regulatory personnel that a better restoration approach would be to create a body of open water by over-excavation, rather than simply allowing the cattails to return to the area. This approach is considered superior because the open water would provide a more diverse habitat year round as well as seasonally, for migratory fowl.

As you are aware, the PCB-impacted sediment removal has been ongoing for the past several weeks. During recent weekly on-site construction meetings, representatives of both U.S. EPA and IDEM have suggested changing the restoration plan to one that provides a body of open water. The ACS PRP Group has now agreed that it is an environmentally more desirable approach to restoration and has agreed to fund the additional cost for wetland remediation if U.S. EPA and IDEM can provide timely written approval and assurances for the change in previously approved plans.

The costs for the remediation would increase because there will be the need to excavate and transport an additional 10,000 cubic yards of soil and de-water the excavation during the

excavation. The ACS PRP Group is requesting written U.S. EPA and IDEM approval of the activities with the following related agreements:

1. The cleanup level established in the ROD for the PCB impacted soil and sediment in the wetland is 1 ppm. Post-excavation sampling will be conducted to confirm that the cleanup standard has been met once the six to eighteen inches of sediment have been removed. It may be that there are detectable PCB concentrations remaining at the bottom of the excavated area, but the soil concentrations will be below the clean up level of 1 ppm.
2. Final wetland area restoration will be the over-excavation of the remediated area to depths of up to eight feet below the original grade. The attached site sketch shows the approximate final contours of the open water excavation. The work will take approximately three weeks.

A pumping rate of approximately 100 gpm is anticipated to be required during the first week to dewater the excavation area. A maintenance pumping rate of approximately 20 gpm will be required during the second and third weeks to keep the excavation dewatered. The following two-part water management program has been worked out with the Agencies' approval as an appropriate plan for treating and testing the dewatering effluent discharge and assuring that there will be no unacceptable release from the Site.

Component 1. At present, the perimeter groundwater containment system (PGCS) extracts groundwater from the east side of the wetland at a rate of 20 gpm and routes that water through the treatment plant. The PGCS will be temporarily turned off and the 20-gpm capacity will be used for dewatering along the south side of the wetland during the restoration activities. For the first week, this available 20 gpm will provide part of the needed 100-gpm capacity for the initial excavation dewatering. After the first week, this 20-gpm treatment capacity will be dedicated to maintaining dewatering. The treatment plant effluent is monitored monthly for a broad range of parameters and these have consistently shown that the plant is highly effective in removing contaminants of concern. This monitoring will be continued during the dewatering activities. No additional monitoring will be required.

Component 2. A separate high capacity pump will be installed at the west end of the excavation area and will pump water at 80 to 100 gpm from the wetland excavation area to the sedimentation basin in the Off-Site Containment Area. The outflow culvert at the northwest end of the sedimentation basin will be plugged so that the basin will act as a retention basin. The dewatering water will be directed against an existing wall of riprap to provide aeration. The stopped up basin will provide the still environment to settle sediments out of the water.

Operation. During the first week, both the relocated PGCS pumping and the retention basin pumping will combine to extract water at about 100 gpm and dewater the excavation area. When the overall watertable has been lowered (after the first week),

the high capacity pump will be shutdown and the relocated PGCS extraction capacity will maintain the dewatered condition of the excavation.

The wetland remediation was specifically scheduled for the late summer so that the work could be completed when there was a low potential of precipitation. If a precipitation event were to occur during the three-week restoration period, it is possible that the additional runoff from the Off-Site area would mix with the dewatering water and exceed the capacity of the sedimentation pond. The agencies have agreed that a precipitation event could fill the basin and require the basin to be operated as a retention basin as designed. Operating as designed allows flow to the wetlands. However, the potential outflow would be primarily rainwater with some aerated and settled dewatering water. Operating the basin as designed during a precipitation event would not be viewed as a release or uncontrolled discharge subjecting to the ACS RD/RA Executive Committee, its members, or contractors to liability. Water that may remain in the basin after the dewatering is complete will be pumped back to the water treatment plant for treatment and discharge. The basin would then return to normal operation as a storm water retention basin.

3. Approximately 10,000 cubic yards of additional soil will be removed from the excavation after it is confirmed by the post excavation samples, that the 1 ppm limit has been achieved. This soil will be moved to the east side of the Off-Site containment area and stockpiled for use next year in construction of the final cover for the Off-Site Area. The final cover will consist of an HDPE liner overlain by a one-foot rooting zone, which will then be covered with six inches of topsoil and seeded. The stockpiled wetland soil will be supplemented with soil brought in from off-site sources to construct the rooting zone for the final cap.
4. There may be trace concentrations of PCBs in the stockpiled soils from the restoration of the wetland. However, the post-excavation sampling will have confirmed that those concentrations are below the clean-up criteria for the Site. Therefore, it will not be necessary to conduct sampling and analysis of the excavated soils and the placement as rooting zone material is considered acceptable to the agencies.
5. The final disposition of the excavated restoration soils will be mixed with other off-site soils, beneath the six inches of final, vegetated topsoil. So if there are any residual PCBs detectable, they will nevertheless be below the cleanup levels and beneath six inches of vegetated topsoil

As you know, the wetland excavation activities have progressed well and we expect to be ready to begin the restoration activities within the next week. Therefore we would appreciate your written approval of this change in restoration plans at your earliest convenience. If we do not receive written approvals this week, we will need to proceed with the originally approved plans for restoration.

If you have any questions, please don't hesitate to call me at (630) 836-8923. Thank you very much for your interest and encouragement of this very positive enhancement to the ACS remediation project.

Sincerely,

MONTGOMERY WATSON HARZA

Peter J. Vagt, Ph.D., CPG
Project Manager

Attachment: Sketch of Proposed Final Contours for Open Water Area

cc: B. Magel
M. Travers

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MONTGOMERY WATSON

By TMK Date 8/15/01 Client ACS Sheet 1 of 1
Chkd. By _____ Description WETLAND AREA Job No. _____

